THE CUTTY SARK

POCKET MANUAL

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To Vicki, George and Tess

Arron Hewett

To James, Mum (Margaret) and Andy

Louise Macfarlane

CUTTY SARK POCKET MANUAL

Arron Hewett
Louise Macfarlane

CUTTY SARK GREENWICH

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INTRODUCTION

Cutty Sark is a ship like no other. She is the world's sole surviving extreme clipper. Built in 1869 midway through Queen Victoria's era-defining reign, the ship both contributed to and benefited from the Victorian age. The Industrial Revolution, which made Britain the 'workshop of the world', coincided with a population explosion that would take the number of people in Britain from roughly ten million at the turn of the century to over 22 million by 1870. Sweeping economic reform, gradual adoption of free trade and colonial expansion meant that huge markets became available to British business while key trade routes were protected. Britain's dominance of the seas as the world's foremost shipbuilding nation, with the largest navy and merchant fleet on the globe, coincided with a period of relative peace. Revolution, reform and expansion had set the scene for a record-breaking ship.

This book will explore how all the components came together to enable *Cutty Sark*, a ship that was built just as steamships were beginning to come into their own, to flourish. By the time she entered the China tea trade, clipper ships and free trade in China had been established for more than a quarter of a century – *Cutty Sark* was late to the party. What was it about her timing, her design and command, and simple good fortune that enabled a ship that was built by relative unknowns to forge a reputation that stands today? The ship that now rests on the banks of the river upon which much of her

business was conducted, in a city that was once the capital for a quarter of the world's population, has had a long and varied life. She was *Ferreira* – a Portuguese general cargo carrier – for 26 years; a training ship for naval and mercantile cadets for more than 25 years; and a museum ship for over 60 years. But it was during her first years as a British merchant ship, under the red ensign, that she forged a reputation that would ensure her future survival. It is for this reason that this book will focus upon her earlier years: 1869–95.

CUTTY SARK AND THE TEA TRADE

Cutty Sark was built for the China tea trade, but tea did not reach British shores until the mid-seventeenth century. Initially popularised for its medicinal qualities, it was not long before it became the beverage of choice. Coffee houses sprang up across Europe to entertain the emerging 'chattering classes', and tea shops soon joined them. In 1660, the famous diarist Samuel Pepys wrote: 'I did send for a cupp of tee (a China drink) of which I have never tasted before.' With the marriage of King Charles II to Catharine of Braganza in 1662, the fashion for drinking tea was truly established. Tea had been popular in Portugal and the Netherlands for half a century before it reached Britain. The new Portuguese queen brought with her not only a taste for tea but two chests of this exotic leaf and the territory of Bombay (Mumbai).

THE OPIUM WARS

The first shipment of tea to Britain was unloaded by the Honourable East India Company in 1669. Established in 1660, the company was formed to challenge the dominance of trade in the East held by the Dutch, Portuguese and Spanish. With bases in Calcutta (Kolkata), Madras (Chennai) and Bombay (Mumbai), the company was awarded the monopoly on all imports from east of the Cape of Good Hope. 'Exotic' goods such as spices, dye, silk and finally tea became popular commodities. The company's monopoly kept prices high, but a heavy tax was also imposed on this new drink. By 1689, one pound in weight of tea would cost the equivalent of a worker's weekly wage. The tax, however, was largely ineffective as it gave ample impetus to tea smuggling, which fed a growing demand. Light and easy to transport, more tea entered Britain illegally than was unloaded by the East India

Company during this period. The majority of smuggled tea came via the Netherlands, whose own Dutch East India Company had first introduced the drink to Western Europe at the turn of the seventeenth century. Floundering, the British government attempted to ban all Dutch imports. This was as ineffective as the tax. It was not until 1784, and the introduction of the Commutation Act, that smuggling was finally put to an end and the company's monopoly protected. The act slashed duties on tea from 119 per cent to 12.5 per cent, and consumption of the beverage rocketed.

While the East India Company held the monopoly in the trade of tea, the monopoly on its supply was retained by China. However, the Chinese authorities had no interest in importing goods from the West and sought payment only in silver, creating an imbalance that could not be sustained. Britain's policy of mercantilism – imposing high taxes to limit imports in favour of maximising exports – sought to restrict the amount of silver entering a territory where it was unlikely to get it back. They needed to find another commodity that the Chinese would buy.

The company therefore began to grow and sell Indian opium to merchants for smuggling into China. The opium was paid for in silver, which soon made its way back into the pockets of the Western tea merchants. Despite prohibiting the sale of opium in 1799, the Chinese authorities were unable to enforce the ban and by the 1820s the opium trade was an extensive industry resulting in a huge addiction problem. In 1839, in a bid to control the situation, the Chinese authorities seized and destroyed the year's tea crop at Canton (Guangzhou). The British retaliated: accepting the merchants' argument that this was a violation of free trade, the government acted swiftly and decisively. The First Opium War (1839–42) was a demonstration of the power of the Royal Navy in what has been termed 'gunboat diplomacy'. Following an attack on Canton and the occupation of Shanghai, the Chinese emperor was forced to sign the Treaty of Nanking (Nanjing) in 1842. The treaty ceded Hong Kong to the British and opened the ports of Canton, Amoy (Xiamen), Foochow (Fuzhou), Ningpo (Ningbo) and Shanghai to unrestricted trade. But it did not end there. A spurious accusation of piracy against a Hong Kong-registered ship a couple of years later escalated into another war. French, American and Russian forces joined the fray and the Second Opium War (1856–60) ended with a devastating defeat for the Chinese. The opium trade was then legalised and did not cease until 1917; a huge amount of

compensation was demanded; and more ports were forced to open up. Hankow (Hankou), the tea capital of China, was among them.

CLIPPER SHIPS

The clipper ship revolution began in the United States of America. ‘Baltimore clippers’ were small, agile, fast-sailing vessels similar to those that had so successfully eluded the Royal Navy during the 1812 war with Britain. Often thought to have taken their name from their ability to ‘go at a clip’, these new vessels were best suited to trades reliant upon speed rather than those reliant upon cargo space. The First Opium War, the discovery of gold in California in 1849 and the same discovery in Australia in 1851 all provided impetus for a shipbuilding boom. Chinese ports were now open, and the ‘gold rush’ offered the potential for instant wealth. Both meant that orders for vessels flooded the American market. Spurred on by the need to obtain even a slight advantage, American ship designers began to apply the innovations of the Baltimore clippers to larger ships. John Willis Griffiths, based in New York, had developed his own testing tank for experimenting with his ideas. He was convinced that a long, gracefully tapered hull and narrow bow ‘exceedingly diminishes the resistance with which [a vessel] moves’. His experiments led him to believe that conventional wisdom should be turned on its head. In order to achieve a vessel capable of great speeds, the traditional ship shape – the ‘cod’s head and mackerel tail’ – should effectively be reversed. Griffiths believed that a great improvement on the cod’s-head-shaped round bow, which smacked into the waves and rode up over each crest, would be a sharp bow that could simply cut through the water. Similarly, he took issue with the belief that the mackerel-tail-shaped narrow stern left a clean wake, suggesting instead that it created a drag. He proposed that a fuller shape and long, thin hull would allow water to run smoothly astern.

The shipowners Howland & Aspinwall were convinced enough by Griffiths’s arguments to commission a ship made to his design, *Rainbow*, and so the clipper ship was born. Such was the bemusement, however, with which Griffiths’s design was met that Howland & Aspinwall very nearly lost their nerve, postponing the build. Stalwarts of the shipbuilding trade declared that the ship was back to front and would surely sink as soon as she set sail. Yet when *Rainbow* did set sail in 1845, she made the voyage from New York to

Canton in just 102 days, two weeks quicker than any previous record. She also made profits equal to twice the price of her construction. Imaginations were duly caught. Howland & Aspinwall next commissioned Griffiths to design *Sea Witch*. This time, an experienced master mariner was on board to devise the ship's rig and sail plan, insisting upon the loftiest mainmast afloat. The result was a ship that achieved the passage from Hong Kong to New York in an unbroken record of just 74 days. The clipper had arrived.

In contrast, Britain was at risk of stagnation. The Navigation Acts, which restricted British trade to British ships, strict laws imposed upon vessel tonnage, and the East India Company's monopoly on all trade in the East did little to encourage innovation. The company's 'East Indiamen' ships remained large and slow, and their bluff-bowed design continued to reign supreme for the best part of two centuries. To make matters worse, a Royal Commission report of 1833 found that British ships and seamen were grossly inferior to their European counterparts. It would take a revolution in trading principles and legislation in the middle of the nineteenth century to put Britain in a position to compete.

AN AGE OF REFORM

By 1834, the East India Company had lost its grip, and free-trade lobbyists were gaining a voice. They argued that the policy of mercantilism – and by extension the company's trade monopoly – was keeping the price of goods artificially high. The company's commercial activities were duly ended and it became a solely administrative body concerned with the government of India. The tea trade was now open for all. Up until 1834, the quantity of tea imported per annum never really altered, plateauing at around 24 million pounds (lbs) in weight. By 1869, the year of *Cutty Sark*'s launch, it had leapt to 63 million lbs.

The Victorian clamour for reform continued when in 1846 the Corn Laws were repealed, marking a fresh commitment to free trade. Three years later, the Navigation Acts were also repealed, opening British ports to foreign trade. The very next year, the American ship *Oriental* sailed into London from Hong Kong with a cargo of tea. It caused a sensation. Not only was she the first foreign ship to do so, but *Oriental*'s impressive passage of just 91 days was made by a ship from a former British colony. This horrified British

shipowners into action. The first British clipper ship – *Stornaway* – was built in Aberdeen in the same year.

The 1854 Merchant Shipping Act perhaps marks the peak of reform for merchant ships. The act, which covered all aspects of ships and seamen, was the foundation upon which the merchant marine would be based. It professionalised the service, making examinations in navigation and seamanship compulsory, as they already were in France, Russia, the Scandinavian nations and Prussia. It also altered the way ship tonnage was assessed and taxed. Previously, ships were evaluated by multiplying their length by a notional percentage for depth. This encouraged the design of deep but slower ships. From 1854, a method of measuring the hull area at three cross sections encouraged the development of a long, curving, sharp bow. Alexander Hall & Sons of Aberdeen led the way, and the 'Aberdeen bow' became a core feature of British clipper ships.

THE SUEZ CANAL

A running theme in the life story of *Cutty Sark* is that of survival against the odds. Just five days before her launch, the Suez Canal opened, cutting the voyage to China by 3,000 miles. Instead of sailing around Africa and into the Indian Ocean to reach China, ships could now take the 'shortcut' through the Mediterranean and Red Sea. But due to the windless conditions of the latter and expensive tolls on the canal, it was simply not viable for sailing ships. Steamers thus began their ascendency in the tea trade, and by 1877, just nine clipper ships were left in the China trade. As such, there is a tendency to regard the 'age of steam' as the natural successor to the 'age of sail' – a sign of the indomitable progress of time. However, such was the refinement of their design that ships of broadly 'clipper' type – though some were four- or five-masted – competed favourably with steamers well into the twentieth century, even assisting their progress by delivering coal to fuel their voyages. They were the greatest wind-propelled vehicles of all time, and they helped to make the world a smaller place with their fast transport of cargo, passengers and mail, especially where scheduled high speed was not critical. *Cutty Sark* outlived all of her sail contemporaries and many of her steamer challengers. By the mid-1920s, she was the only 'pure' ship-rigged clipper of its generation still afloat. This book seeks to understand why.

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BUILDING *CUTTY SARK*

Few ships have provoked as much excitement as clippers. They represent a pinnacle of design in an age of rapid change, and they glorified speed in an age of competition. The fact that they endured for a relatively short period of time and were eventually outshone by the economical but lumbering steamships perhaps goes some way to explaining why their fine-lined elegance continues to be so keenly admired.

IN THE BEGINNING

American clipper ships dominated in the 1840s and 1850s, reaching a peak in 1853, when at least 50 were launched from east coast shipyards. With home-built ships still lagging behind, many British merchants commissioned these speedier American ships to make the run from China to London. This dominance might have endured but for two factors: the American economic depression of 1857, and the Great Tea Race of 1866. The ‘Panic of 1857’ – a financial scare caused by the declining international economy and overexpansion of the US domestic economy – plunged America into a deep recession. Due in part to the sinking of SS *Central America* and with it the loss of 14,000 kilograms of gold cargo as well as 246 lives, the number of American ships chartered by foreign countries dropped by a huge 75 per cent. Commercial credit had dried up, forcing a stop to new purchases. America would not fully recover until after the Civil War (1861–65). A virtually

unchallenged British boom could now begin. In the three years following the American recession, 20 clipper ships were launched in Britain.

The Great Tea Race of 1866 was the most intense of the races in an era dominated by competition. In 1852, the confident and dominant American designers had challenged British shipowners to a race to China for a prize of £10,000. The challenge had not been accepted, but by 1861 the race was very much on. A premium of 10 shillings for each ton of tea began to be paid to the first ship of the year to land its cargo in London, fuelling a fashion for drinking the first tea delivered by the fastest ship. In 1866, 16 ships assembled at Foochow to await the season's fresh tea and take part in the Great Tea Race. *Ariel* and *Taeping* emerged as the front runners, charging through the English Channel at around 15 knots towards the finish line. They arrived off Dungeness just ten minutes apart and requested pilots. *Ariel* arrived first, but *Taeping* was first to secure a tug and took the lead. *Ariel* was headed for the East India Docks while *Taeping* was heading further up the Thames for the London Docks. The former endured a frustrating wait for the tide to rise to enable her to enter the docks, and so *Taeping* was able to begin unloading her cargo 20 minutes ahead of her rival. However, the pair agreed to share the reward as it had been unclear whether the race was to the Thames or to the Docks and their owners feared that any argument might prevent the merchants from awarding the prize at all. The premium was never to be awarded again, but the excitement stirred by the great race created a mini boom in the trade in which the spirit of competition was definitive. In the 1850s, the average number of clipper ships engaged in the tea trade was just 16. By the late 1860s, this figure had jumped to 40.

Great China Tea Race, Taeping *and* Ariel
National Maritime Museum, London (PAH8572)

CLIPPER SHIP DESIGN

The three main design characteristics of clipper ships were: a fine-lined hull; an emphasis on streamlined appearance; and a large sail area. As we shall see, a daring master was another essential asset. A long, narrow hull – typically with an average length/breadth ratio of 5:1 – was perfected by Alexander Hall & Sons of Aberdeen. Their 'Aberdeen bow' delivered increased speed as well as extended cargo space and reduced tonnage – all very appealing to budding shipowners. The yacht-like appearance of clipper ships owed much to their streamlined form. High bulwarks (sides of a ship at upper deck) concealed the raised decks at both ends of the ship, and from the side created an unbroken sheer line of unrivalled elegance. For some clipper ships, this aesthetic element was detrimental to their practical design. Clipper ships were full-rigged with three masts and square sails. Their masts were tall, reaching over 100 feet above the deck, and supported a huge sail area that could generate as much as 3,000 horsepower in fresh winds. With their long, sleek hulls and raking masts towering above the rest, this new breed of ship would have been instantly noticeable on the dockside or setting sail under an impressive spread of canvas.

American clipper ships were largely made from softwood, which made them cheaper to construct but more vulnerable to damage. In Britain, hardwood clippers were unsurpassed in terms of cutting and shaping but hardwood was in short supply. From 1864, composite construction – where a ship's wooden hull is fastened to an iron frame – was the dominant method for building clipper ships in Britain. Composite construction was pioneered by John Jordan of Macintyre & Co, Liverpool, and it is believed that Jordan would go on to employ Hercules Linton, the designer of *Cutty Sark*. Composites possessed a strong and rigid shape in which the iron frames took up much less space than their bulky wooden alternatives. Iron was also cheaper and lighter. Between 1863 and 1870, 61 composite clipper ships were built for the China tea trade in British shipyards.

The number of ships made entirely of iron also gradually increased over the course of the nineteenth century. As the number of iron foundries increased, so too did the number of iron ships. But there remained a degree of reluctance to use iron, particularly from those in the tea trade, as it was believed that an iron hull would cause their cargo to sweat and spoil. Furthermore, without sufficient and affordable antifouling methods, iron ships would require regular dry-docking to scrape the hull of barnacles and weeds. This was a costly and time-consuming process. Wooden ships, on the other hand, had to contend with wood-boring shipworm, capable of sinking a vessel. The solution to this centuries-old problem was to sheath wooden hulls in copper sheets, but this was expensive. George Frederick Muntz, a metal-roller of Birmingham, patented his cheaper 'yellow metal' alternative in 1832. Consisting of 60 per cent copper, 40 per cent zinc and a trace of iron, Muntz metal was claimed to offer an 'improved [method of] manufacture of metal plates for sheathing the bottoms of ships or other such vessels'. Attaching copper sheets to wood was relatively easy, but it was impossible to do with iron. However, a ship with iron frames and wooden planks could offer the best of both worlds.

JOHN WILLIS & SONS

The man who would be the owner of *Cutty Sark*, John 'Jock' Willis, was born in the Scottish borders town of Eyemouth in 1817. His father, also John Willis, is said to have run away to sea following the premature deaths of both

of his parents. He built a successful life for himself, progressing from seaman to shipowner, and founded John Willis & Sons in 1830. Nicknamed ‘Old Stormy’, he is believed to be the inspiration behind the sea shanty ‘Old Stormalong’ and is said to have had such a thick Scottish accent that his name was misheard and was thus entered as ‘Whillis’ in the local parish records. John Willis senior married Janet Dunbar, and John junior was their first child, followed by four more boys and three girls. The family relocated to London sometime after 1824, so it is interesting that John junior, a man defined by his Scottishness, who named the majority of his ships after Scottish places or themes and was himself nicknamed ‘Jock’, was unlikely to have had a Scottish accent.

John Willis & Son’s first ship was *Demerara Planter*, which was engaged in the sugar trade in the West Indies. Records are inconsistent, but more than 20 ships would follow, though the firm never owned more than 14 ships at a time. A number of Willis’s sons followed their father into a career at sea. Before the Merchant Shipping Act had made examinations compulsory, Willis’s eldest son, John junior, became the master of *Demerara Planter* at the tender age of 18. George Willis, John’s second son, was lost at sea when he was just 22. Robert, the youngest son, owned shares in the firm and was recorded as a ‘Ship owner and sea merchant’ in the 1871 census. He would hold a 24 per cent ownership in *Cutty Sark*.

Following the final abolition of slavery in Demerara and a dip in the profitability of cane sugar, John Willis & Sons turned its attention to the East. *Borderer* brought back the firm’s first cargo of tea in 1847.

John Willis senior died in 1862 and his eldest son took over the business. John Willis junior (Jock Willis) appears to have been quite a different shipowner to his father. While John senior had built a number of smaller ships, his son seems to have been more interested in purchasing larger vessels. Only three ships – *Cutty Sark*, *Blackadder* and *Hallowe’en* – were ordered by Jock Willis. That *Blackadder* and *Hallowe’en* were iron ships while *Cutty Sark* was a composite serves to mark the latter out as unique in origin as well as in destiny. Willis & Sons entered a total of ten ships into the China tea trade, with varying success. While ships such as *Lauderdale* (launched in 1858) and *Whiteadder* (launched in 1862) made nine and eight trips respectively, Jock Willis had yet to find a ship to break records and dominate the trade. In fact five of the ten were wrecked, with one abandoned

and two more missing at sea. Following the furore caused by the Great Tea Race of 1866, and with Willis not being a man to shy away from a challenge, *Cutty Sark*, *Blackadder* and *Hallowe'en* were his last attempts to 'crack' the tea trade. When rival shipowner George Thompson launched *Thermopylae* in 1868, announcing that she would be the fastest ship afloat, Willis bridled and vowed to prove him wrong with a superior new ship. However, while *Thermopylae* had been designed by Bernard Weymouth of Lloyd's Register and built by Walter Hood, a very well-established firm, Willis would rely upon relative unknowns.

Willis & Sons' Ships

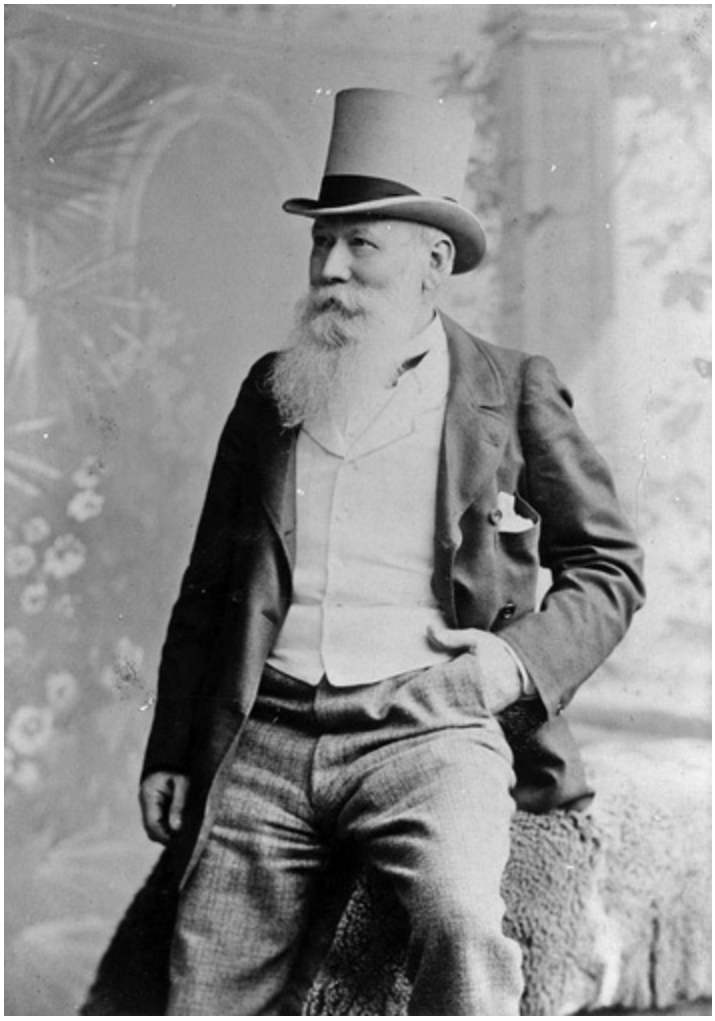
Name and trade	**Date of launch**	**Built**	**Type**	**Fate**
Demerara Planter – *Demerara trade*	*1830 (thought to have been purchased by Willis & Son after 1832)*	*Sunderland*	*Barque: 253 tons*	*Missing, 1839*
Janet Willis – *Demerara and West Indies trade*	*1835*	*Sunderland*	*Barque: 311 tons*	*Sold in 1850*
John Willis – *Demerara trade*	*1839*	*Sunderland*	*Barque: 320 tons*	*Unknown*
Borderer – *China tea trade*	*1845*	*Sunderland*	*Barque: 357 tons*	*Unknown*
Saint Abbs – *London–Bombay (Mumbai) trade*	*1848*	*Sunderland*	*Barque: 505 tons*	*Wrecked 1855*
Janet Willis – *London–India trade*	*1850*	*Sunderland*	*Ship (wood): 572 tons*	*Lost with all hands, 1864/65*
Merse – *China tea trade*	*1853*	*Sunderland*	*Ship (wood): 699 tons*	*Lost 1877*
Lammermuir – *China tea trade*	*1856*	*Sunderland*	*Ship (wood): 952 tons*	*Wrecked, 1863*
Lauderdale – *China tea trade*	*1858*	*Rotherhithe, London*	*Ship (composite): 851 tons*	*Missing, 1877*
Laurel – *Unknown*	*1859 (acquired by Willis & Sons in 1861)*	*Sunderland*	*Barque: 638 tons*	*Condemned 1887*
Whiteadder – *China tea trade*	*1862*	*Rotherhithe, London*	*Ship (wood with iron beams): 915 tons*	*Broken up, 1884*
The Tweed – *Australian trade*	*1857 (acquired by Willis & Sons in 1863)*	*Bombay (Mumbai)*	*Paddle steam frigate converted to sailing ship 1,745 tons*	*Broken up, 1888*
Assaye – *sold after conversion to sail*	*1856 (acquired by Willis & Sons in 1863)*	*Bombay (Mumbai)*	*Paddle steam frigate converted to sailing ship: tonnage unknown*	*Sold and broken up, 1864*
Lammermuir – *China tea trade*	*1864*	*Hartlepool*	*Clipper (wood): tonnage unknown (purchased to replace previous Lammermuir)*	*Missing, 1876*

Zenobia – *Unknown*	*1851 (acquired by Willis & Sons in 1867)*	*Bombay (Mumbai)*	*Ship: 1,599 tons*	*Sold in 1882*
Dharwar – *Australian trade*	*1864 (acquired in 1868)*	*Belfast*	*Ship (iron): 1,456 tons*	*Sold in 1898*
Coldinghame – *Unknown*	*1866 (acquired in 1869)*	*Liverpool*	*Ship (steel): 1,059 tons*	*Sold in 1896*
Cutty Sark – *China tea and later Australia wool trade*	*1869*	*Dumbarton*	*Clipper (composite): 921 tons*	*Sold in 1895*
Blackadder – *China tea trade*	*1870*	*Greenwich, London*	*Clipper (iron): 917 tons*	*Sold in 1899*
Hallowe'en – *China tea trade*	*1872*	*Greenwich, London*	*Clipper (iron): 920 tons*	*Wrecked, 1887*
Coldstream – *Unknown*	*1849 (acquired in 1875)*	*Burma (Mumbai)*	*Barque: 756 tons*	*Sold in 1885*
Jumna – *Unknown*	*1848 (acquired in 1875)*	*Bombay*	*Brig, (teak): 346 tons*	*Listed as still with Willis in 1882*
Fantasie – *London–India trade*	*1863 (acquired in 1877)*	*Glasgow*	*Barque (composite): 696 tons*	*Lost, 1884*
Sumatra – *Unknown*	*1866 (acquired in 1878)*	*Sunderland*	*Ship (composite): 740 tons*	*Listed as still with Willis in 1882*
Taitsung – *London–India trade ('east')*	*1865 (acquired by Robert D. Willis in 1880)*	*Glasgow*	*Clipper (composite): 815 tons*	*Wrecked, 1883*

Jock Willis is often characterised as a wily and ruthless businessman, particularly in his dealings with *Cutty Sark*'s builders, Scott & Linton. He certainly seems to have been a man unafraid to take a gamble, though many of his dealings could be viewed as pragmatic and even, on occasion, naïve. Rather than commission new ships, with all the associated complexities of finding the right builder for the right design, he chose to buy ships that were already established. In the case of the sister ships *Punjaub* and *Assaye*, he purchased paddle steamers that had been built for the Indian Marine, converting *Punjaub* into a sailing ship called *The Tweed*, which would become the flagship of his fleet. He also stripped the engine from *Assaye* and sold both engine and vessel for a healthy profit of £8,000.

Of the three ships he commissioned for the China tea trade, all were built by inexperienced firms. It is possible that this was an attempt by Willis to drive the price down, but his fingers may have been burnt by the experience as he did not repeat the exercise, despite purchasing another four ships before the end of his career. In the case of *Blackadder* and *Hallowe'en*, the last two of the ships commissioned for the tea trade, Willis had commissioned Maudslay, Sons & Field of Greenwich, London to build two iron clippers.

Although they were good engineers, they had limited experience in shipbuilding and made grave errors in the fitting of *Blackadder*'s masts. As such, the ship was dismasted on her maiden voyage and a lengthy legal wrangle ensued. It was not until this was settled that her sister ship, *Hallowe'en*, was finally handed over to Willis. In the case of *Cutty Sark*, Willis managed to convince the shipbuilders Scott & Linton to build her at £17 per ton, when the going rate was £21. The ship was delivered late and bankrupted the shipbuilders.



John 'Jock' Willis
National Maritime Museum, London (7011)

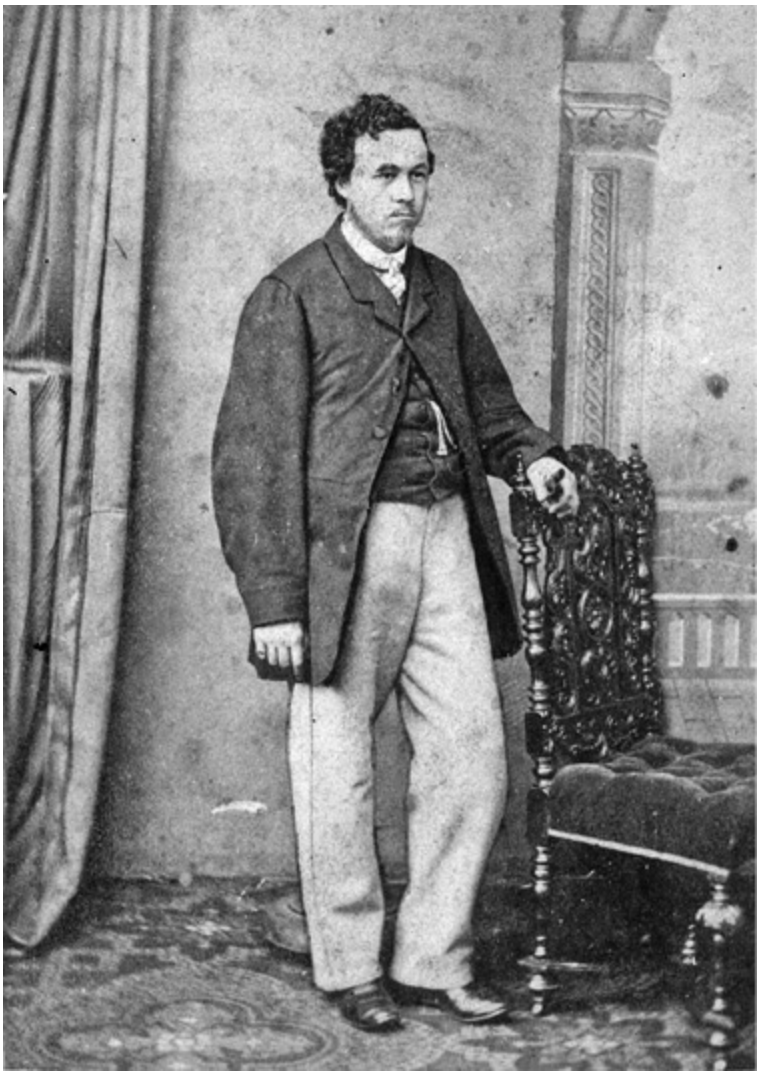
Much like the ship that gave him enduring fame, Jock Willis was an easily recognisable character around the City. He wore a distinctive white top hat,

earning him the affectionate moniker ‘White Hat Willis’. He never married, dedicating himself to his work, and only drew his business to a close in his late seventies. It is said that whenever one of his ships was due to depart, he would go down to the dock, raise his white hat and holler ‘Goodbye my lads!’ to his charges. Jock Willis lived to the age of 82. All of his brothers had died before him (two in the year of *Cutty Sark*’s maiden voyage), and with no heirs to pass his business on to, he gradually began to sell off his fleet. By the time he sold *Cutty Sark* in 1895, he had four ships left. His estate, worth over £18,000, was left to a nephew, the son of George – the brother Willis had lost to sea.

SCOTT & LINTON

William Dundas Scott-Moncrieff and Hercules Linton entered into a shipbuilding partnership on 31 May 1868. Less than two years later, they had built *Cutty Sark*, but had been declared bankrupt in the process.

Hercules Linton was born in 1836 in Inverbervie, in the north-east of Scotland. His father, Alexander, was a surveyor for Lloyd’s Register of Shipping. Following in his father’s footsteps, despite apparently wanting to be a watchmaker like his namesake grandfather, at the age of 19 Linton was apprenticed to Alexander Hall & Sons in Aberdeen. It was the most prolific firm in the production of vessels for the China tea trade – eight of which were built in Linton’s time there. He moved on to Liverpool Underwriters’ Registry for Iron Vessels (rivals to Lloyd’s Register) as a surveyor. His patch was the shipyards of the north-east coast, including Sunderland, which would emerge as one of the centres of composite clipper ship construction. Linton was a talented and ambitious young man, and John Jordan (believed to be the same Jordan who pioneered the composite construction of clippers) wrote of him: ‘I am glad to bear testimony to your sterling integrity, and to your skill as a shipwright in every branch [of] the business. As a modeller, your designs are singularly well balanced.’ Linton left Liverpool in 1864 and it is thought he spent the next few years as a freelance surveyor and designer of ships before he entered into his only shipbuilding partnership. He is thought to have built yachts, among other vessels, and this would influence his approach to the exceptional refinement of *Cutty Sark*.



Hercules Linton
National Maritime Museum, London (A875)

Less is known about William Dundas Scott-Moncrieff. He was a talented engineer, born in 1847 in Midlothian. At just 24 he must also have been a somewhat unknown entity as a business partner, and it is not known when or how the two met. Nonetheless, Scott & Linton was formed with the intention that the former manage the ‘counting house and engineering’ and the latter the ship design and building. With capital of £1,200 (£600 from Scott-Moncrieff’s father, £300 on cash credit from Royal Bank and £300 borrowed from, it is believed, Linton’s life insurance), they rented part of a site at Dumbarton from fellow shipbuilders William Denny & Bros. Dumbarton, on the River Clyde, was at the very centre of composite clipper ship construction

in Britain. Between 1863 and 1870, 26 composite ships bound for the China tea trade were built there. Industrial hubs such as the Clyde, Sunderland and London (where iron-working skills were at their best) emerged as industry leaders. *Cutty Sark* was thus to be built in a ship-building nucleus.

CUTTY SARK'S DESIGN

Sadly, records do not exist to tell us precisely what Linton's thinking was in his design of *Cutty Sark*. There are, however, a number of clues and hypotheses. According to Basil Lubbock, the pre-eminent maritime historian who devoted much of his attention to *Cutty Sark*, Jock Willis took Hercules Linton to see his flagship *The Tweed* before work on *Cutty Sark* began. Willis is said to have been keen for his new ship to emulate his favourite in both her bow design and her hull lines. Recent comparisons reveal that despite the difference in size and shape of their stems (the main structural element at the bow of a ship, extending from the keel), the forward quarter of their hulls was the same shape. However, it is interesting to note that Scott-Moncrieff said in an interview with Lubbock himself that he had never even heard of *The Tweed*. Whether or not this trip actually took place, it seems highly likely that Linton would have been aware of *The Tweed*'s design, as well as of the design of other record-breaking ships of the time. *Thermopylae* had been launched the previous year and had made an impressive passage of just 89 days back from China. *Cutty Sark*'s measurements would be similar to those of her fearsome rival.

Other clues about the ship's design come from the Memorandum of Agreement and the ship's specification. The Memorandum of Agreement was signed by Jock Willis and Scott & Linton and stipulates the terms that had to be met and the provisions Linton had to achieve. *Cutty Sark*'s specification, held by Dumbarton Public Library, lists everything that Scott & Linton were expected to supply, from masts, sails and anchors to coffee pots, compasses and corkscrews. Under the first point of the Memorandum of Agreement, Scott & Linton were to 'build make furnish and complete … a composite sailing ship or vessel to Class A1 sixteen years at Lloyd's'. Lloyd's Register of Shipping had been formed more than one hundred years before to ensure the quality of construction in shipbuilding through classification of condition. The classification 'A' meant 'First Description of the First Class'. The

number following it determined whether the ship was well found or lacking. Thus, ‘A1’ was the classification for a ship of the highest grade. The quality of the materials used determined the number of years a ship was awarded a certain class and the minimum amount of time that could elapse between surveys. Thus, in Lloyd’s 1869 publication *Suggestions for the Construction and Classification of Composite Ships*, only the use of the following timbers would suffice to secure a Class A for a period of 12 years:

English, African and Live Oak, Adriatic, Italian, Spanish, Portuguese and French Oak, East-India Teak, Morung Saul, Greenheart, Morra and Iron Bark.

Cutty Sark used East-India teak for her hull planks and – as stipulated by Lloyd’s – American rock elm for her keel and lower planks. Other conditions could add more years. For instance, two additional years were awarded for the use of Muntz, or yellow metal, bolts on the sheathing of the hull. This also ensured that the vessel only had to be surveyed every four years rather than annually. Although there were many conditions to be met, it made sense to aspire to the highest grade of ship as these vessels were more likely to secure cargoes first and had to endure less time out of service while being surveyed. Jock Willis obviously believed in quality as the majority of his ships were built to A1 class. However, he was clearly going for broke with *Cutty Sark* as most of his earlier ships had used timbers that would only secure a 13-year classification.

Cutty Sark’s deck plan included a ‘Liverpool house’ (at the stern of the vessel) as accommodation for the officers; a deckhouse, just behind the main mast, for apprentices and petty officers; and accommodation in the fo’c’sle (the bow of the ship on the middle or ’tween deck) for the rest of the men. The fact that, according to the specification, the deckhouse was to be ‘iron framed and plated with teak and panelled’ gives some indication as to the desired finish of this fine ship. The panelling would add little to the protection or comfort of the men. It would add a great deal, however, to the ship’s appearance. For the first two voyages of her working life, *Cutty Sark* kept to this arrangement. It was not a very practical set-up. It meant that the ordinary and able seamen slept right at the front of the ship, exposed to the worst of the ship’s movements in heavy seas. It also meant that, with only one small ladder to take them up to the main deck, when the call for ‘all

hands on deck' went out, they were unable to respond quickly. In 1872 another deckhouse was added, providing greater comfort, enabling quicker response and also securing extra cargo space below deck. It is possible that Linton's commitment to the streamlined appearance of his clipper, with bulwarks that were around one foot higher than those of her contemporaries, may have been responsible for the decision that favoured aesthetics over practicalities. It is also possible, however, that Linton was concerned about Lloyd's 'Suggestions' in its 1869 publication, which stated: 'Deck houses or other erections will be allowed on a spar [or main] deck but only to the extent of one-tenth its total superficial area.' He may have felt, initially, that a single deckhouse was the more innocuous option.

In terms of the ship's decoration, it would seem that Linton did not have total autonomy over the design. At the stern of the ship, the decoration reading 'Where there's a Willis a way', designed by Linton, is retained to this day. Featuring the ungainly Willis motto, it seems more likely to have come from a Willis instruction than from a Linton inspiration. Likewise, below it appears another decoration, that of the Star of India accompanied by the fittingly nautical axiom 'Heavens Light Our Guide'. The Star was awarded by Queen Victoria for loyalty to the Crown in connection with India. It was designed to have no religious connotations and therefore to be available to the population of the religiously diverse jewel in the Queen's imperial crown. It is thought that this was taken or copied from Willis's favourite ship, *The Tweed*, from her days as *Punjaub* in the Indian Marine, and adopted as a sort of house emblem.

BUILDING *CUTTY SARK*

By April 1869, Scott & Linton had contracts to build nine new vessels, including two steamships and two paddle steamers. The contract to build *Cutty Sark*, by far the largest and most ambitious on their books, was signed on 1 February 1869. The completed ship was to be delivered less than six months later, on 30 July.

Unfortunately, records do not exist outlining the process by which a designer brought a clipper ship into being. Since no two clipper hulls were exactly the same, each marked a fresh attempt to create an unrivalled thoroughbred. However, Eric Kentley and Fred Walker (both formerly

curators at the National Maritime Museum, the latter a historian of shipbuilding on the Clyde) suggest that Linton would have referred to the designs of other ships to determine the optimal dimensions to achieve all that Willis desired: high speeds, sufficient cargo space, ability to negotiate the difficult waters of Chinese rivers. It is possible that a half model and a testing tank would also have been used in the design process, just as John Willis Griffiths (no relation) had used them for the first of the clipper ships, *Rainbow*. However, no records exist, sadly, to corroborate this. The transverse lines would then have been transferred to paper and the lines and body plan drawn up. This was likely to have taken place in a mould loft where the ship's ribs would have been traced onto the floor with chalk and flexible battens, before being put to paper. For *Cutty Sark*, this was completed by the Chief Draughtsman, John Rennie, who would go on to become the Naval Constructor and Instructor for the Chinese government. The keel, or backbone of the ship, would have been laid early on in the process. The thirteenth point of the Memorandum bears this suggestion out, stating that the vessel should not cost more than £18,650, to be paid in eight stages of the build:

1. £500 on execution of the agreement;
2. £1,500 when the keel was laid;
3. £2,000 when the vessel was in frame and the beams riveted;
4. £1,000 when the vessel was ready for planking;
5. £2,500 when the vessel was completely planked and decked;
6. £2,500 when the vessel was caulked, coppered and ready for launching;
7. £2,500 when the vessel was launched; and
8. £6,150 Remaining balance when the vessel completed to satisfaction, 'with the sails bent and the compasses adjusted'.

The ship was likely to have been built in the same fashion as a wooden ship, with the framework and then the frames being added to the keel to create a skeleton structure. Scaffolding would have been built alongside the hull to add the planks and flatten the curve of the frame. Some elements of the ship, such as the steering gear and the windlass, were patent-design purchases. For instance, the specification states that the windlass was 'to be Emerson & Walker or Harfield's Patent'. *Cutty Sark* was moved to a wet dock for

masting and then to Greenock for her rigging to be set.

The ship was surveyed while she was being built and Lloyd's surveyors did not agree with all of Linton's designs. They were shocked by the knife-like sharpness of the bow. They also insisted that additional bilge plates (metal plates that join the sides to the bottom) as well as additional beams be fitted. Linton would not accept these stipulations, leading to a serious delay. That one of these surveyors happened to be Linton's father, Alexander, goes some way to demonstrating the confidence the younger Linton had in his design, despite his relative lack of experience. The ninth point of the Memorandum of Agreement stated that if the vessel was not delivered on time, Scott & Linton would be obliged to pay £5 for every day of delay. The Memorandum also stated that the vessel was 'to be built under the immediate superintendence' of a surveyor appointed by Willis himself. George Moodie, who would be *Cutty Sark*'s master for her first three voyages, was appointed. According to the historian A. B. C. Whipple, it was Moodie's vigilant approach that extended the delays, which contributed to the demise of Scott & Linton. Moodie is said to have inspected every single piece of wood, insisting upon the best, knot-free quality. According to Frank Carr, former director of the National Maritime Museum and prime mover behind the Cutty Sark Preservation Society of the 1950s, it was Henry Henderson, foreman shipwright at the yard and later *Cutty Sark*'s carpenter, who was responsible for this fastidiousness. Whatever the reason, delays over materials used and Linton's design meant that deadlines were not met and payments were not received from Willis, and by August 1869 this junior company was in serious financial difficulty.

Correspondence between Scott and Linton reveals that their working relationship was not as solid as it might once have been. Linton wrote to Scott in May 1868 and twice more the following July about the possibility of an order for an 800-ton sailing ship. Linton's second letter of July is to inform Scott that his telegram had arrived too late and they had thus lost out on the contract. More troubling is the existence of a letter that appears to be a draft from Scott from February 1869, shortly after the order for *Cutty Sark* had been agreed. In it, Scott writes about an order that had to be aborted because the young firm had over-committed themselves: 'I must really plead inexperience more than anything else.' It would seem Scott and Linton were encountering problems before work on *Cutty Sark* had even begun.

The completion date for the ship was missed, and a meeting with the firm's principal creditors was arranged for September 1869. The young firm was by now some £7,000 in debt. (According to Linton's biographer, Robert Brettle, Linton's house and furniture had all gone to the creditors by the following February, when his first child was just three months old.) The eventual completion of the ship is often attributed to William Denny & Sons, the shipbuilders whose yard Scott & Linton had rented in Dumbarton. However, research into the Denny archives by Alan Platt and Robert Sexton suggests that it was the creditors who fulfilled the remaining contractual obligations. Denny & Sons were among the creditors, but only 26th in a list of 40.

'WEEL DONE, CUTTY-SARK!'

The clipper ship that would survive against the odds throughout her career was finally launched on 22 November 1869. The wife of George Moodie, the future master of the ship, was bestowed with the honour of launching her three months prior to her maiden voyage from London. Unfortunately, no records exist to tell us why Jock Willis chose the name *Cutty Sark* for the ship he hoped would be his fastest. The phrase comes from the 1791 Robert Burns poem 'Tam O'Shanter'. Tam is an inebriated farmer heading home on his faithful horse, Maggie. On his way, he encounters the Devil playing the bagpipes to a coven of dancing witches. Stopping to spy on them, his eye falls upon the beautiful young witch Nannie, who is wearing a revealing short shift or 'cutty sark'. Tam's excitement gets the better of him as he exclaims 'Weel done, cutty-sark!' Now aware of his presence, Nannie and the coven give chase. Tam heads for the Alloway bridge, knowing witches cannot cross running water, but Nannie reaches out and manages to rip the tail from poor Maggie as Tam makes his escape.

Naming his ship after a scantily clad witch who was unable to cross running water certainly seems a strange decision. However, Willis & Sons' loyalty to their fatherland is clear in the names of the majority of their vessels, and employing a phrase from the country's greatest poet is not all that surprising. There is also, of course, an allusion to speed and giving chase, in the same way that his ship would be giving chase to *Thermopylae* and other rivals. Perhaps there was also a bawdy in-joke for those familiar with the content of the poem. Nannie and a wad of rope to represent Maggie's tail became the

ship’s figurehead. Carved by Frederick Hellyer of Blackwall, the original now casts her eye on the dry dock underneath *Cutty Sark*, with a replica to be found underneath the bowsprit.

On 13 January 1870, *Cutty Sark* left Scotland, bound for the East India Docks in London, where she was to collect her first cargo. The ship was registered on 8 February 1870, giving her home port as London and official number as 63557. She was finally ready for her maiden voyage.

– 3 –

THE FIRST VOYAGES

Cutty Sark had already come a long way since John Willis commissioned her in 1869. She was now ready to begin service, to join the great tea race, and to begin generating the profits that Willis had in mind when he discussed his plans for her with Hercules Linton.

Having sailed down the east coast of Britain after departing Dumbarton on 11 January 1870 with a temporary crew on board, *Cutty Sark* arrived in London on 26 January to receive her first cargo at the East India Docks. Willis had placed adverts for the outbound voyage in anticipation of the ship's arrival using the good name of one of his other ships, *Whiteadder*, to ensure that a full cargo was secured. The reputation of *Whiteadder* was such that merchants would be more likely to trust a brand new ship with their goods, rather than relying on the good name of Willis alone. By the time *Cutty Sark* was in London and ready for loading, Willis had secured a general cargo bound for Shanghai of products such as wine, spirits and beer. Shortly after midnight on 15 February 1870, *Cutty Sark* left London on her official maiden voyage.

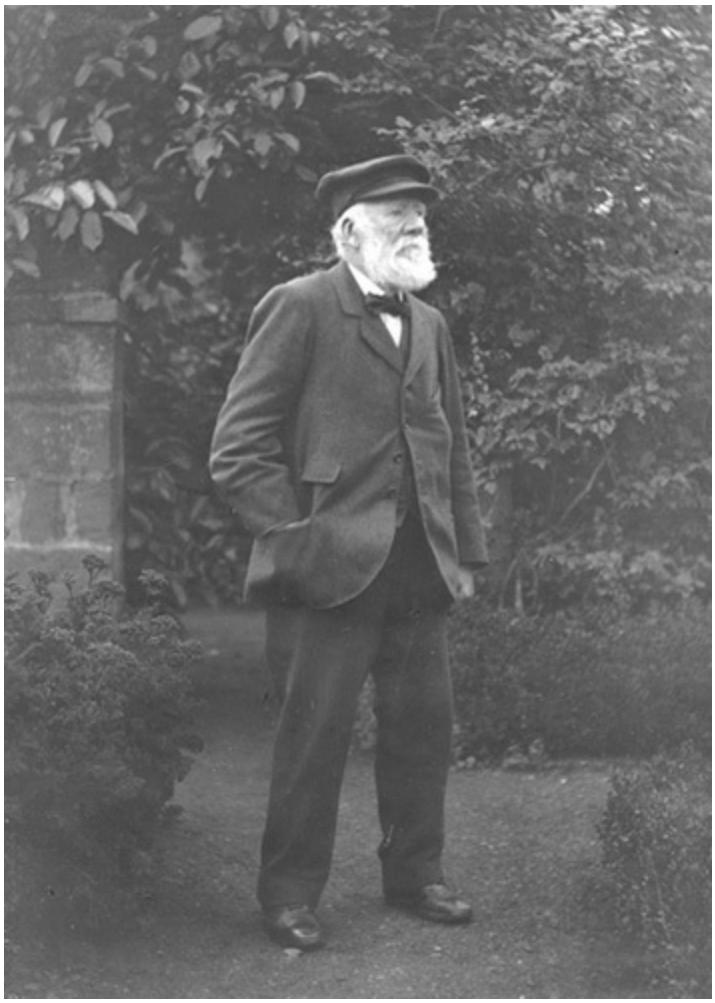
THE MAIDEN VOYAGE

The crew for that first voyage numbered 27 in total. *Cutty Sark*'s first master was George Moodie, who had overseen the ship's construction at Dumbarton and commanded her for her first three years. Moodie was one of Willis's

prized masters, serving for several years with the company and gaining a reputation as a reliable, conscientious and experienced captain under whose leadership a ship and its crew would prosper.

CREW

Moodie was served on the outbound journey to Shanghai by a crew of 26. It was one of only three voyages in *Cutty Sark*'s 26 years under the red ensign on which she carried no apprentices. The highest number of crew ever carried on a voyage was 30 – on the return voyage from Shanghai in 1870, and again in 1876.



Captain George Moodie
National Maritime Museum, London (7009)

The nationalities of the first crew on board *Cutty Sark* were very diverse, as was the case with most trading vessels of the time. However, signing crew of different nationalities inevitably resulted in cliques forming, causing friction among some of the crew and adding tension during the more difficult moments at sea. This would have a significant impact on some of *Cutty Sark*'s future voyages, including the return from Shanghai on this very voyage, when two crew members refused to report for duty.

Moodie's Crew for *Cutty Sark*'s Inaugural Voyage

Crew	Rank	Country of origin
George Moodie	*Master*	*Scotland*
James Low	*First Mate*	*Scotland*
James Guthrie	*Second Mate*	*Scotland*
James Ferguson	*Steward*	*Jamaica*
James Rae	*Cook*	*Scotland*
Henry Henderson	*Carpenter*	*Scotland*
Andrew Dryburgh	*Carpenter's Mate*	*Scotland*
William Frank	*Sailmaker*	*Scotland*
John Korpi	*Ordinary Seaman*	*Finland*
William Hegarty	*Ordinary Seaman*	*England*
James Bain	*Able Seaman*	*Scotland*
Robert Fisher	*Able Seaman*	*England*
James Hanlon	*Able Seaman*	*England*
Peter Swinson	*Able Seaman*	*Sweden*
James Spears	*Able Seaman*	*England*
John Wellesley	*Able Seaman*	*England*
Hilton Davis	*Able Seaman*	*Antigua*
Edward Vaughan	*Able Seaman*	*Wales*
Charles Johnson	*Able Seaman*	*London*
William Ambrose	*Able Seaman*	*Antigua*
William Brown	*Able Seaman*	*St Vincent*
James Cooper	*Able Seaman*	*Scotland*
John Costello	*Able Seaman*	*Chile*
Samuel Jackson	*Able Seaman*	*Scotland*
Henrick Johnson	*Able Seaman*	*Latvia*
Alexander Johnston	*Able Seaman*	*Finland*
William Parker	*Able Seaman*	*England*

The opportunity to sail around the world, even though it involved having to work long, hard hours, was one that many sailors relished. Upon arrival in Shanghai, however, three crew signed off and were replaced for the return voyage with five crew, at a greater cost for Willis in terms of wages than

would have been the case had they signed on in London. This was to be a feature throughout *Cutty Sark*'s career; nearly 15 per cent of her entire crew deserted, mostly during her years in the Australian wool trade, forcing Willis to pay a premium for whatever skilled – or semi-skilled – hands the master of the ship could find at the time.

SLOW PROGRESS

Once out of the English Channel on her maiden voyage, *Cutty Sark* made for the Canary Islands, hitting a gale within three days of leaving London but making good time over the nine days of strong winds. It took her 12 days to reach Tenerife, whereupon she was becalmed. Once the winds picked up, *Cutty Sark* moved on to the wide expanse of the Atlantic Ocean. Heading for the South Atlantic, she became becalmed once again at 26°S 23°W, closer to Rio de Janeiro than to the Cape of Good Hope. Moodie's log, while not detailed, shows his frustration at the lack of progress:

Distance 15 miles. Calm! Calm! Calm! Sea like a mirror.

From here, *Cutty Sark* picked up the Roaring Forties, (latitudes 40–50° south), allowing her to breeze past the Cape of Good Hope and on towards the Sundra Strait across the Indian Ocean. Between 13 and 19 April, Moodie was able to record the following runs: 298 miles, 360 miles, 269 miles, 304 miles, 266 miles, 336 miles and 228 miles. Over the seven days she totalled 2,091 miles – a spectacular performance, and one that gave Moodie great confidence in the ship. After a brief stop at the Indonesian port of Anjer (Anyer), *Cutty Sark* then moved on to the South China Sea, reaching Shanghai after some three and a half months at sea. Between Anjer and Shanghai she passed *Thyatira*, which had left London a full fortnight ahead of her, and this was a sign of things to come.

ADJUSTING TO LIFE AT SEA

For any new ship, there were additional expectations of the crew. There were always bound to be issues with equipment, fixings, ropes, storage and sleeping conditions on a new vessel, and *Cutty Sark* was no exception. For the first two years of her life, the men were tasked with optimising the working conditions for all on board, with this first voyage requiring the most

work as the rigging settled and the crew worked out the correct tensioning of the ropes and wires. While such work would benefit only the small handful of crew who served for more than one voyage, it would ultimately assist future crews in maintaining *Cutty Sark*'s reputation as one of the very best ships to serve on, and it is clear from her future passage times that the work carried out by Moodie and his crew on the voyage to Shanghai was expertly done.

SECURING CARGO

On her later voyages, *Cutty Sark* sometimes spent as long as three months searching for cargo to bring back to London; in these early days, however, she spent only 25 days in China, which included unloading her general cargo from London and loading her tea cargo. Having taken on a new shingle ballast to compensate for the difference in weight after outbound cargo was unloaded, more than 10,000 tea chests were loaded onto *Cutty Sark* for the return leg of her maiden voyage. In these chests were some 600 tons of various blends of tea, enough to make around 200 million cups of tea; in other words, based on the census data of 1871, this one cargo alone equated to nine and a half cups of tea for every single one of the 21.4 million people alive in Britain at the time. Considering that at the same time *Cutty Sark* was making her first voyage there were 59 vessels bringing tea back from China, clearly demonstrating that tea was enormously popular in Britain – and that demand was not going to diminish.

This cargo, which in today's money would be worth around £18.5m, completely filled *Cutty Sark*'s lower hold as well as all of the available cargo space on the 'tween deck. Willis's agents in Shanghai secured a freight charge of £3 10s per 50 cubic feet, which no other ship that year was able to better, and which only one other ship, *Serica*, was able to match. This freight charge equated to a gross profit of around £2,000 for Willis – which would be the equivalent today of around £150,000. This was a considerable profit for Willis, representing a 12.5 percent return on his original investment. This means that, in addition to what he made from the outgoing cargo, around 20–22 per cent of Willis's initial outlay would have been recouped after just one year.

Given the severe conditions *Cutty Sark* faced in the return journey to London, water coming through the main deck was unavoidable. To keep the

tea dry, the Chinese stevedores tasked with loading *Cutty Sark*'s cargo packed the lower hold and 'tween deck tight with pebbles to ensure no movement between tea chests; bamboo matting was then laid over the top of the chests, and then covered again with canvas. No captain of *Cutty Sark* ever noted water damage to a tea cargo, meaning that these precautionary measures were clearly successful in keeping *Cutty Sark*'s valuable cargoes dry.

According to Basil Lubbock, the crew of *Cutty Sark* were among several crews in port at Shanghai taking part in a wager: the ship that made the quickest passage from Shanghai to the English Channel would win a month's wages from each of the other ships. Considering that those other ships were *Serica*, *Duke of Abercorn*, *Forward Ho*, *Argonaut*, *Ethiopian* and *John R. Worcester*, this was a bet well worth winning. It is likely that the crews of those other ships were unaware of *Cutty Sark*'s intended speed and sleek design, and that her crew took advantage of those laying wagers, having witnessed first-hand her speed in the southern Atlantic a few weeks earlier. This gave the crew all the more reason to work hard for Moodie, and to get back home as quickly as the winds and currents allowed.

After loading her tea cargo, *Cutty Sark* departed Shanghai on 25 June. She was the first of the tea clippers to depart from Shanghai, but was already behind two other clippers, including *Titania*, which had a head start, having left Hankow a week earlier.

EARLY TRAGEDY

Early on the return voyage, *Cutty Sark* experienced her first tragedy when Able Seaman Robert Fisher became the first member of her crew to die while on active duty. Fisher succumbed to dysentery, which he may have contracted while in port in Shanghai, though he only developed symptoms once underway. Fisher suffered for some 20 days before passing away, with Moodie noting in the logbook that Fisher had suffered from the disease twice before and was of a 'weakly constitution'. At 6.20pm on the day of his death, Fisher's remains were committed to the sea.

As was the custom, Captain Moodie held an auction for Fisher's personal effects. The account of Fisher's possessions gives an indication of how *Cutty Sark*'s crew prepared for the conditions they were to face:

One chest, one suit blue flannel, one pair cloth trousers, one cloth vest, one pair drawers, one singlet, two pairs cotton trousers, two pairs socks, one pair stockings … one pair mitts, one pair sea boots, two caps, laid felt hat, one sou'wester, one pair braces, three linen collars, one pillow case, one razor, one pocket knife, two books, needles, thread and buttons, one palm, one sheath, one small looking glass, one comb.

With Fisher's wages at the time of his death amounting to £13 7s. 6d., and the auction of those items above raising a further £5 9s. 10d., Moodie then sent a letter to Fisher's only stated relative, his sister, Elizabeth. She was not easily reached, however: her address had been given to Moodie as 'c/o John Melville of British Guiana'. The accompanying parcel contained the £18 17s. 4d. belonging to Fisher's estate as well as the following items:

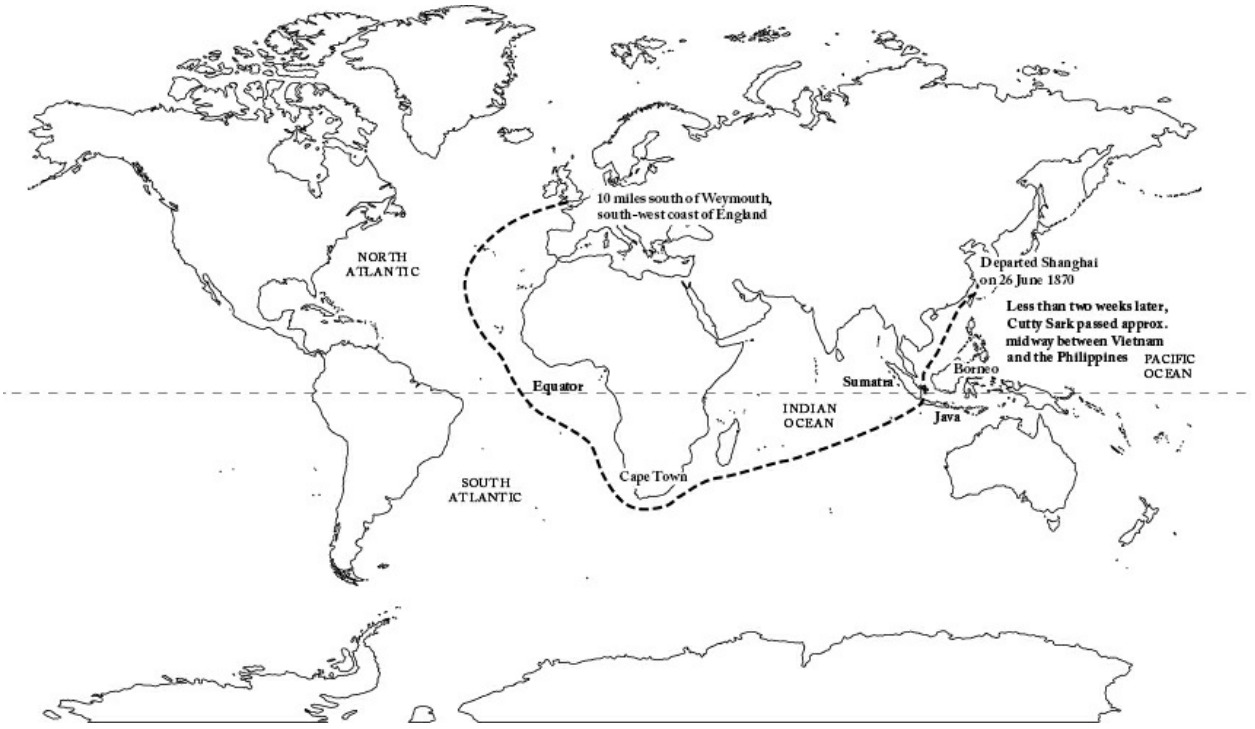
… a lock of hair, three small pieces of gold [apparently a broken earring], a small inkstand and a carte-de-visite of himself.

COSTLY SHORTCUT, WINNING VOYAGE

After stopping briefly at Anjer on 2 August to allow letters to be sent ashore for posting, Captain Moodie took *Cutty Sark* across the Indian Ocean, using the trade winds to reach Madagascar. It had taken some 37 days to reach Anjer, which was around seven days slower than alternative routes would potentially have allowed. While Moodie may have been disappointed at the loss of a week's progress, it is likely that he was attempting to calculate the quickest route home and the process lost time. It is also possible that the death of Fisher had an impact on the performance of the crew. Whatever the reason, the delay ultimately cost Willis a week but showed both Moodie and his successors that the more traditional route back from China, used by most ships in the tea trade, was the best route for *Cutty Sark*. Neither Moodie nor his successors ever attempted to find a shortcut on the route, staying with the tried-and-tested run that allowed the ship to make faster passages than this first voyage.

Rounding the Cape of Good Hope, she moved on to the Atlantic and finally returned to London after 110 days at sea. While it was a good performance, *Cutty Sark*'s passage that year was only the fourth fastest of the tea clippers and 13 days less than the year's fastest passage by *Windhover*. Despite this,

the crew were more interested in the wager they had laid while in port in Shanghai; *Cutty Sark* easily won, by some four days from *Duke of Abercorn*, and was surpassed only by similarly swift vessels such as her rival *Thermopylae*. *Thermopylae* had taken five days less in sailing from Foochow, setting her stall out early in the first of several 'races' between the two great ships; however, if Moodie had taken the traditional route home, *Cutty Sark* would almost certainly have beaten *Thermopylae* on her very first tea run. Willis was aware of the ship's underlying performance and was pleased with her potential.



The route back from Shanghai

RETURN TO CHINA

Cutty Sark would prove to be a very profitable asset for Willis. One of the reasons for this was that her masters were frequently able to unload their cargo and load on her new cargo quicker than was possible for many of her rivals. Willis's agents were also key to the process, as more often than not *Cutty Sark* arrived in port already contracted for her return cargo. Once back in London in October 1870 she spent just 23 days in her hometown port, departing quickly again for China with a cargo of general goods.

Moodie took a longer route on this occasion, passing Timor instead of the more westerly port of Anjer, yet the clipper ship reached China some 16 days faster than on her previous voyage. Indeed, so fast was *Cutty Sark* that she arrived in China before the first of the tea crop was ready for loading; this meant that Moodie could either sit in port and wait for weeks, or make use of the free time. He opted for the latter, and Willis's agents, Jardine, Matheson & Co, secured a rice cargo from Bangkok to Hong Kong, then a cargo of poles from Foochow to Shanghai. However, those same agents, who had made Willis a good profit from those two passages, then made an unfortunate error.

The freight charge offered for the first of the tea cargoes in Shanghai was just £3 per 50 cubic feet, which was 10s. per cubic foot less than the previous year and therefore not enough to convince Jardine, Matheson & Co to agree to ship the cargo. Not wanting to waste any time, *Cutty Sark* was sent downriver to Foochow to pick up a cargo there instead. The rate was no better in Foochow, however, but Moodie was not inclined to return immediately to Shanghai, preferring to stay put in the hope that a better rate could be procured by waiting in Foochow. It could not, and *Cutty Sark* returned to Shanghai after three idle weeks in Foochow to take the original £3 rate and return to London.

A TASTE OF SUCCESS

After another journey of 110 days, following a similar route to the previous year, *Cutty Sark* arrived in London on 21 December. It was her first appearance in London for more than 13 months. Of the notable passages that year, *Cutty Sark*'s was still among the fastest, despite leaving much later in the year and missing some of the best winds. *Titania* clocked the fastest passage of 93 days, arriving much earlier in the first week of October, while *Thermopylae* achieved a run of 106 days and *Thyatira* 108 days. Those three were the only ships to surpass *Cutty Sark*'s tea run in 1871, and this again showed Willis that, with a better route and a dash more luck, *Cutty Sark* had a very good opportunity to set some fast times.

Moodie was to serve as master only once more, on a rather astonishing voyage that gave *Cutty Sark* her first real taste of success, albeit in the face of a disappointing failure. While he commanded other vessels throughout his

career, Moodie remained in love with *Cutty Sark*. He once famously commented:

> *I never sailed a finer ship. At 10 or 12 knots she did not disturb the water at all. She was the fastest ship of her day, a grand ship, and a ship that will last for ever.*

With two years' sailing safely recorded in the ship's logs, Moodie now knew the limitations of *Cutty Sark*, and had begun to get the best out of her in spite of those limitations. It would be some time, however, before *Cutty Sark* would again sail under as capable a master: after Moodie transferred from *Cutty Sark* to steamships in 1872, she passed from one master to another, never quite able to recapture those early signs of promise.

At the end of 1871, however, with two successful seasons under her belt, *Cutty Sark* appeared destined for many equally successful years to come in the China tea trade. Little did Willis, Moodie or her crew know then that *Cutty Sark*'s fate was about to be determined by one extraordinary voyage.

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EXTRAORDINARY VOYAGES, PART 1

THE PASSAGES THAT MADE *CUTTY SARK* FAMOUS

1872: SHANGHAI TO LONDON

By 1872 *Cutty Sark* was becoming well known in the Far East. Her first voyages, while generating significant profits for Willis, had also been a period of settling in for the ship; the crew needed time to get to grips with how she handled, and the route to and from China needed some refinement by Captain Moodie to allow the clipper ship to achieve the best possible passage times. On her maiden voyage, her arrival back in London in 1870 after a passage of 110 days was one of the fastest of the season; it was by no means the quickest, but a new ship could not reasonably have been expected to have surpassed her rivals so soon after construction. Indeed it was not until her third tea run, having departed from London with a cargo containing yet more general goods, that she began to make a real name for herself in the tea trade.

RIVALRY WITH *THERMOPYLAE*

Jock Willis's intention for *Cutty Sark* to not only rival *Thermopylae* but to surpass her was now about to come to pass. For when *Cutty Sark* departed Shanghai on 17 June 1872, her rival was sailing close behind her. What was

about to take place was akin to a modern-day Formula One race, with two of the fastest vessels of the era engaging in a frantic battle to reach the finishing line of the River Thames, each with their own distinct characteristics that could affect the outcome.

Thermopylae was also a new ship, having been constructed by Walter Hood & Co in Aberdeen for the Aberdeen White Star Line in 1868. *Thermopylae* had achieved faster passages to and from China than *Cutty Sark* had; her two previous return journeys from Shanghai were 105 days and 103 days, significantly quicker than *Cutty Sark*'s twin 110-day passages. *Thermopylae* was therefore the ship to beat, and Moodie would have been conscious of the repercussions had *Cutty Sark* not performed well in such a close contest. Undoubtedly, the master would have been determined to please Willis, and so the crew of *Cutty Sark* were about to be put to their first true test – as was *Cutty Sark* herself. A race against the very best in the tea trade was about to commence.

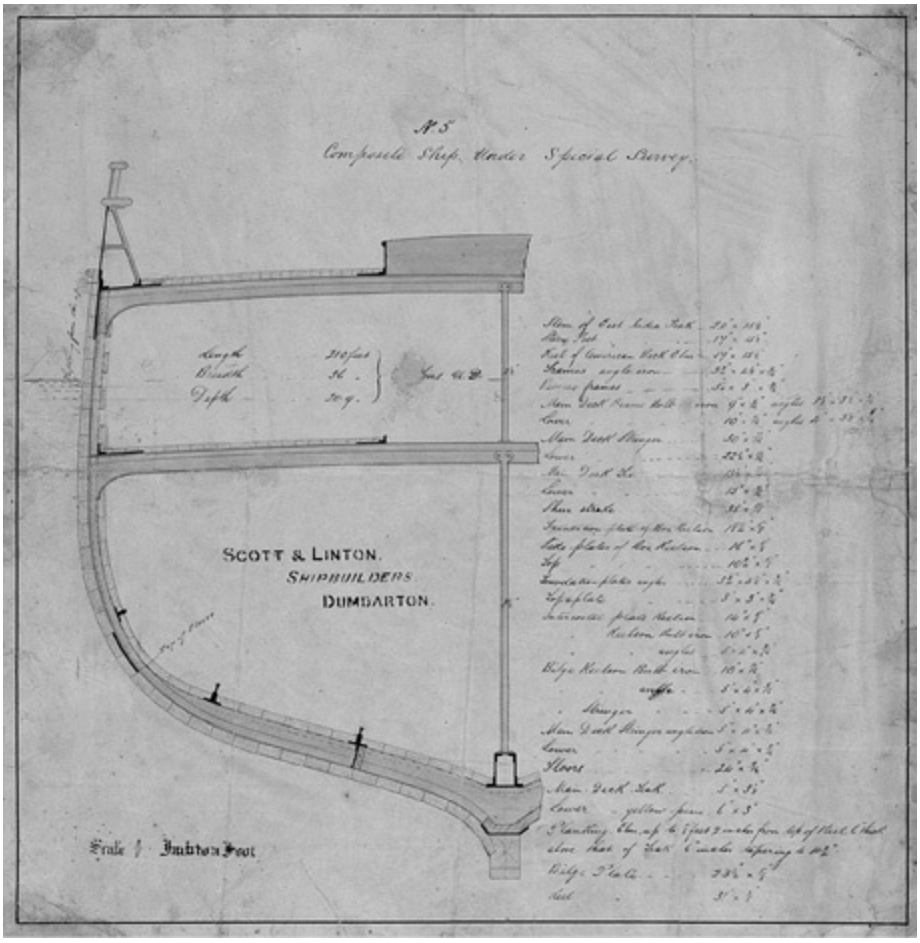
The two ships were well matched. *Thermopylae* was also a composite-built clipper ship and her dimensions and capacity, as listed with Lloyd's Register, were strikingly similar to those of *Cutty Sark*. She had been designed by Bernard Waymouth, the London senior surveyor for Lloyd's Register, which had compiled the official rules for the construction of composite ships. Waymouth was a highly respected figure within the shipping community, and a ship of his design was always destined to attract attention.

Comparing *Cutty Sark* and *Thermopylae*

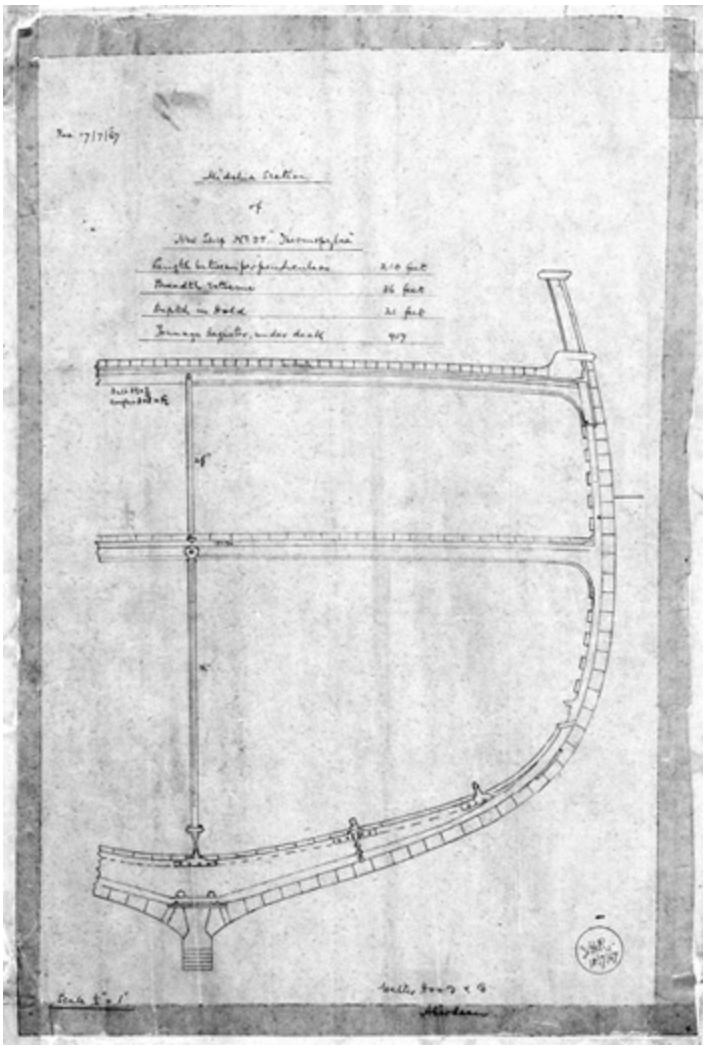
Measurement	***Cutty Sark***	***Thermopylae***
Length	*212' 5"*	*212'*
Breadth	*36'*	*36'*
Depth	*21'*	*21'*
Gross tonnage	*963 tons*	*991 tons*

Thermopylae's master was Robert Kemball, who was given command upon her launch in 1868 and who had served as master ever since. Kemball had been master of *Yangtse*, which had been known as a slower vessel until, under Kemball, she had beaten several 'faster' ships. Kemball was also the man responsible for *Thermopylae*'s excellent performance from the outset – including a record pilot-to-pilot passage from London to Melbourne of just 60 days in 1868–9, a record for the voyage under sail that remains to this day.

With the nickname ‘Pile-on-Kemball’, Kemball and *Thermopylae* posed a significant challenge for Moodie. A comparison of the recent performance of the two ships, and of their captains, would have suggested that *Thermopylae* would have been the favourite to reach London first.



Sketch of Cutty Sark *plan compared against* Thermopylae *plan*
National Maritime Museum, London (CYS0144)



National Maritime Museum, London (MSA0170)

THE RACE BEGINS

The race between the two ships began immediately upon their departure from Shanghai, on 17 June 1872. *Thermopylae*, carrying approximately 200,000 lbs of cargo less than her usual load, left port two hours later than *Cutty Sark*, although fog and calms kept both crews on edge as the race began on a somewhat false start. It is quite possible that Kemball took less cargo to give *Thermopylae* as much advantage as possible against her rival. The race began in earnest on 23 June when the calms gave way to a gale that split *Cutty Sark*'s fore topgallant sail.

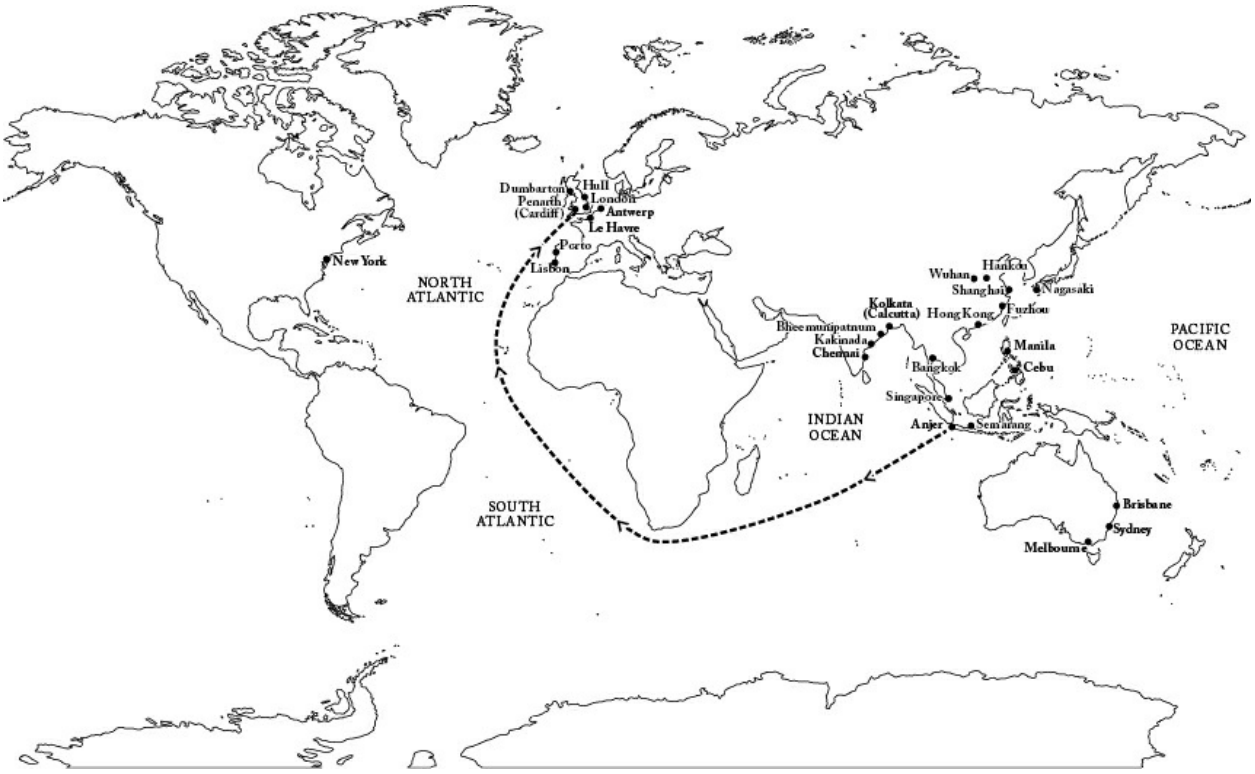
The two ships were within close distance of one another for some time, and on one occasion early in the race even hoisted their ensigns to signal the other

vessel. On 26 June *Cutty Sark*, herself carrying a cargo weighing 20,000 lbs less than her normal load, had built up a slight lead. On 1 July *Cutty Sark*'s fore topgallant sail was split again by another strong gale, which then subsided into a light breeze for much of the following week.

By 15 July, *Cutty Sark* was around eight miles ahead of *Thermopylae* and was increasing her lead as they approached the Gaspar Strait, which was notoriously difficult to navigate. On 19 July both ships arrived at the port of Anjer, with *Thermopylae* having overtaken *Cutty Sark* due to challenging conditions for the latter: the passage through the Gaspar Strait had required Moodie to change course on more than one occasion to avoid waterspouts, which, had she been caught in one, would have been devastating for *Cutty Sark*. It was at Anjer that *Cutty Sark* carried out some brief business, mainly dealing with the crew's letters. *Thermopylae* did not stop, and the two hours Moodie lost as a result of stopping allowed Kemball to build up a lead as the two ships left waters best suited to *Thermopylae*, and entered waters best suited to *Cutty Sark*.

DISASTER STRIKES

From Anjer it was a straight race back to London: across the Indian Ocean, round the Cape of Good Hope, and up through the Atlantic to the English Channel. As early as 20 July *Thermopylae* had extended her lead to around three miles; however, when the winds picked up, *Cutty Sark* soared past her, sailing more than 300 miles each day for three consecutive days. These trade winds continued to push *Cutty Sark* south and west, allowing her to have developed a significant lead by the time the winds calmed on 7 August.



Map of route back from Anjer

When, on 11 August, a gale battered *Cutty Sark* off the coast of South Africa, she had built up a sizeable lead over *Thermopylae* – around 400 miles separated the vessels. This lead was not to last. The gale blew for four days, with some of the most furious winds *Cutty Sark* was ever to see during her career. They were strong enough to tear the fore and main lower topsails on 13 August, as well as to completely destroy the ship's rudder on 15 August, leaving her unable to steer.

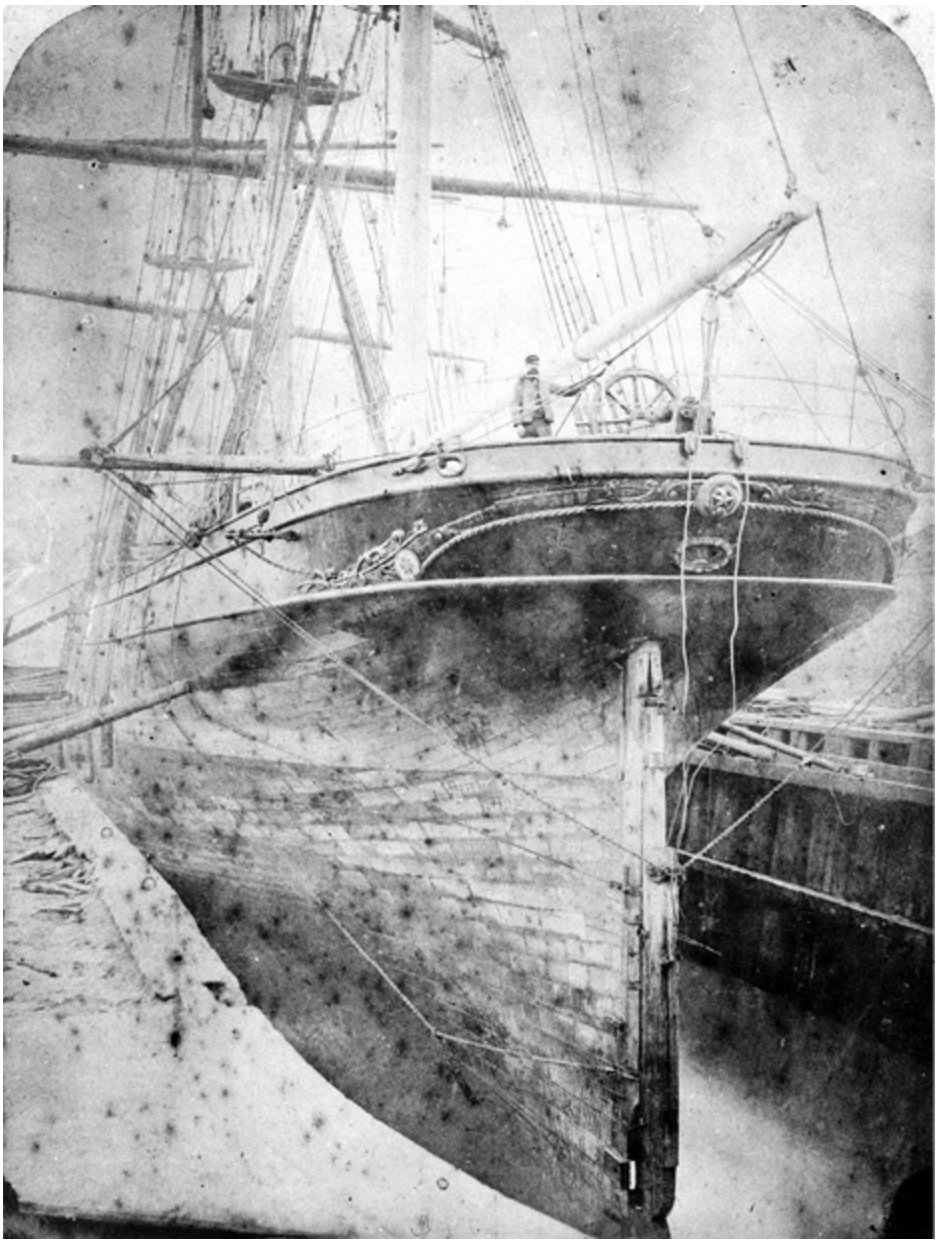
SAVING THE SHIP

That same day, at a latitude of 34°26'S and a longitude of 28°1'E, Captain Moodie instructed the crew to put together a makeshift, or jury, rudder. The heaving seas made the tesk near-impossible and it would be six days before this jury rudder was finally fitted on 21 August. By the time *Cutty Sark* had begun to make good time again – 194 miles sailed on 23 August – she had fallen nearly 500 miles behind *Thermopylae*.

The jury rudder was a temporary fix designed to allow the ship to steer and thus resume her journey safely. Robert Willis, brother of Jock and the owner

of 37.5 per cent of *Cutty Sark*, was on board, and had been opposed to the idea of the crew constructing a jury rudder, instructing Moodie instead to make for the nearest safe harbour – Port Elizabeth. Moodie was an experienced captain and knew that if he did so, any hope of finishing the voyage in a good time would disappear; indeed, it was unlikely that Port Elizabeth would be able to provide *Cutty Sark* with any more skilled labour or materials than the ship already carried on board. The relationship between the two men soured at this point, but it was undoubtedly Moodie's determination to construct the jury rudder and thus continue with the voyage that contributed to one of *Cutty Sark*'s finest moments.

With rough seas hampering the efforts of the crew, the ship's carpenter, Henry Henderson, set up an improvised forge on the main deck in order to fabricate the fittings required to attach the jury rudder to the stern post of the ship. In addition to the crew, Henderson was able to call on the assistance of two stowaways, one of whom, John Doile, was a carpenter, and the other was a blacksmith. The other crew member assisting Henderson was Moodie's son, Alexander. At one point the makeshift forge constructed by Henderson was torn from the deck by the rolling seas; the fire from the dislodged forge struck the younger Moodie, causing lifelong scars.



Henry Henderson with his jury rudder
National Maritime Museum, London (7795)

The four men took six days to construct the jury rudder, using one of *Cutty Sark*'s spare spars for the rudder post and blades, fashioning the fixings and attaching the jury rudder to the stern post. With a combination of rolling seas, wet weather and strong winds, the whole endeavour was fraught with danger. However, crews on board such vessels as *Cutty Sark* were well used to dealing with the elements, and that *Cutty Sark* was able to resume her journey again so quickly was testament to the resolve of her master and crew.

GETTING UNDERWAY

Cutty Sark resumed her journey at a snail's pace on 21 August, and Moodie was forced to take a conservative approach to the voyage as the jury rudder was not able to cope with strong winds and the accompanying heavy seas. Over an eight-day period towards the end of August, *Cutty Sark* sailed just shy of 500 miles. Limited to a maximum of 8–9 knots, *Cutty Sark* passed the island of St Helena on 9 September, some four days behind *Thermopylae*, and then the Equator on 15 September.

With the ship's speed limited to ease the pressure on the jury rudder, it is surprising that the crew still managed to achieve runs of more than 200 miles on seven occasions in the first two weeks of September. However, this luck was not to last: on 20 September the jury rudder failed, leaving *Cutty Sark* helpless once more. A second jury rudder was constructed, using whatever spare material could be found on board, and a slower pace was kept for the remainder of the voyage.

Thermopylae arrived in the Downs off the coast of Kent on 12 October, seven to nine days before *Cutty Sark* limped home. If it hadn't been for the six days lost while constructing jury rudders and the much slower pace necessitated by using the jury rudders, it is certain that *Cutty Sark* would have beaten *Thermopylae* to London by several days. It is also remarkable that, despite the lost time and limited speed afforded by the jury rudders, the passage made by *Cutty Sark* was not even the slowest tea run of 1872.

THE BEGINNINGS OF FAME

While *Thermopylae* technically won the race, the accolades and praise of the shipping community went to Captain Moodie and *Cutty Sark*. Moodie's achievement in limiting the amount of time *Thermopylae* arrived in London ahead of *Cutty Sark* to between seven and nine days was widely seen as more impressive than *Thermopylae*'s voyage of 115 days. The carpenter, Henderson, was awarded the princely sum of £50 – around £5,000 in modern terms – by Willis for his efforts, which the Board of Trade used as an example of how to fashion a jury rudder from that point on.

Sadly, it was to be Captain Moodie's last voyage as master of *Cutty Sark*. His dispute with Robert Willis over the jury rudder led to his resignation

upon his return to London. He moved on to steamships and was replaced as master of *Cutty Sark* by the former master of Willis's ship *Whiteadder*, Francis Moore. Moore was not as competent a sailor as Moodie, and it was not until the appointment of Richard Woodget in 1885 that *Cutty Sark* once again had as talented a master as Moodie had been.

The race of 1872, laced with disaster as it was for *Cutty Sark*, laid the foundations for her future reputation as the greatest ship afloat. *Thermopylae* played her part in that, and for that reason alone should never be forgotten. Although *Cutty Sark* ultimately lost the 1872 race – which, because steamships now dominated the route, would turn out to be the last of the great tea races – it is to both ships' credit that the two rivals are still regarded as the fastest ships ever built.

It was not the last time that these two great rivals would race: later in the same year, they left London 11 days apart, arriving in Melbourne exactly 11 days apart. The two would not compete seriously again until *Cutty Sark* joined *Thermopylae* in the wool trade in the 1880s.

1885: SYDNEY TO LONDON

Having been forced out of the tea trade by steamships, and barely making a profit of any description for a number of years, it was clear that a new path was needed for *Cutty Sark*, as Willis knew that her potential to generate revenue was not being achieved. He would undoubtedly have had many ambitious opportunities at his disposal around the globe, but with some of his fleet already serving in the Australian wool trade, he took the more cautious approach and entered *Cutty Sark* into a trade he knew well – a low-risk, high-reward industry that was already paying him handsomely. It was to be a pivotal decision in the ship's life, and one that ultimately shaped the reputation she holds today.

In contemplating his options, Willis would have undoubtedly considered the differing economics of the tea and wool trades. The business of transporting wool cargoes was significantly different to that of transporting tea, the cargoes requiring different conditions and storage below decks, and holding differing values to their owners. The ballast used to right the ship when laden with tea generally consisted of worthless materials such as stones and shingle, while with a wool cargo, ships could use more valuable ballast.

Cutty Sark was known to use chrome nickel, which doubled as a secondary cargo and brought additional revenue for Willis. It was ingenious moves such as this that allowed shipowners to generate the profits they did, demonstrating how commercially minded owners had to be to make a profit. Her entry into the wool trade, then, offered the potential for *Cutty Sark* to make up for lost time and to generate the kind of profits Willis had in mind when he commissioned her.

A WHOLE NEW WORLD

Cutty Sark joined the wool trade full time in 1883, loading the first of what would be 12 wool cargoes from Australia. With Captain Frederick Moore at the helm – not to be confused with Francis Moore, *Cutty Sark*'s second master – she took on 4,289 bales of wool in Newcastle, New South Wales. The return journey took just 83 days, which turned out to be the fastest journey of the season of all the ships serving in the wool trade. This placed *Cutty Sark* among the elite cargo ships in the wool trade after just one season – indeed, it was not long before she was regarded as the absolute best of all the ships in the wool trade – and Willis must surely have then regretted the previous years spent tramping the world for cargo.

One of the reasons for her supreme success in the wool trade was the route taken by *Cutty Sark* back from Australia. Stronger and faster in heavy winds than in light, she was propelled back to London by the Roaring Forties, known the world over for their fearsome west-to-east winds. They took *Cutty Sark* through the South Pacific, past Cape Horn at the tip of South America and straight into the Atlantic. No other ship in the wool trade could have taken advantage of the strong winds the way *Cutty Sark* could, due in no small part to her 32,000 square feet of sail and the expert master at the helm.

In addition to this, during the passage from Australia to London, ships encountered the doldrums – a belt of low pressure around the Equator in which prevailing winds are calm – only once, rather than twice as on the route back from China. Conditions were ever changing in the doldrums, and typical delays crossing them ranged from a few days to a fortnight. Since every day spent at sea cost Willis money, the fact that *Cutty Sark* could return to London from Australia nearly a month quicker than she ever returned from China meant that she was able to be put to sea more often than before. *Cutty*

Sark performed well in heavy weather, and this combined with a reduction in unavoidable delays at sea meant that she thrived on the route from Australia to London and very quickly built her reputation as the ship to beat each year.

It is therefore entirely unsurprising that the voyage of 1884 was even more profitable for Willis. Captain Moore took a whole four days off *Cutty Sark*'s previous best passage back from Australia, making it back to London in 80 days. Willis was so pleased with Moore's performance that he removed him from *Cutty Sark* and placed him aboard his prize ship, *The Tweed*. Unfortunately for Willis, *The Tweed* suffered irreparable damage during a storm in 1888 as she was approaching the Cape of Good Hope. Totally dismasted, she was towed to Algoa Bay, two days' sailing from the Cape, and there was blown by a gale onto the shore. By this time *Cutty Sark* was undeniably Willis's flagship vessel, and the only vessel that could match her record passage achieved in 1884 was, of course, *Thermopylae*.

MAXIMISING *CUTTY SARK*'S POTENTIAL

While Jock Willis was pleased with *Cutty Sark*'s performance, he wanted her to be even faster in order to maximise her financial potential. By now he would undoubtedly have had one eye on the clock, as *Cutty Sark* was designed to last some 30 years and was now exactly halfway through her expected life. To that end, he appointed one of his rising stars, Richard Woodget, as *Cutty Sark*'s next master.

Captain Richard Woodget, unattributed photograph, late 1880s
b Courtesy of Mary Evans Picture Library

Woodget had impressed Willis with his handling of *Coldstream* from 1881 to 1885. *Coldstream* was an old ship, built in the same year Woodget was born, 1845, and was also as slow a ship as any in Willis's fleet. That was, of course, until Woodget was given command. Woodget took the ageing ship and coerced every half-knot of speed out of her, returning her to profitable status and impressing a thankful Willis so much that he took Woodget to the East India Docks to appoint him as master of *Cutty Sark*. It was a considerable rise for Woodget, who had begun his career in 1861 and worked his way up through the ranks, moving from vessel to vessel, to become master of *Coldstream* in just 20 years.

SETTING RECORDS

With Woodget's appointment, setting record passages became the norm for

Cutty Sark, and some of them remain unbeaten to this day. His first voyage as master of the clipper ship was her sixteenth, and she reached Sydney in just 77 days, arriving considerably ahead of schedule on 20 June 1885. This remarkable voyage included a run of 931 miles in just three days, with several other days also seeing considerable distance covered. Of the nine ships that departed from London for Sydney, *Cutty Sark* was fastest of all, giving Willis an enjoyable victory over such ships as the well-known *Samuel Plimsoll*, as well as *Sir Walter Raleigh* and the iron ship *Pengwern*.

The return journey later in the year, with *Cutty Sark* arriving back in London on 30 December 1885, far surpassed the expectations of even the most optimistic spectators. This leg of her journey stands as the most famous of all *Cutty Sark*'s passages: a record journey taking just 73 days to sail back from Sydney. What made that voyage all the more noteworthy is that Woodget had never previously sailed round Cape Horn, and he earned great respect from the crew for doing so on this occasion.

That return journey was, of course through the Roaring Forties, which lived up to their reputation. Within a week of departing Sydney, she came up against a fierce squall that took the port-side lifeboat clear off its skids and overboard, along with all the gear stowed inside. Several sails were damaged, some beyond repair, as *Cutty Sark* took on significant amounts of water. Despite these horrendous conditions for the crew, *Cutty Sark* herself was flying: according to Woodget's logs, she sailed some 306 miles over the course of that one day alone. It was days such as this, difficult though they were for the crew, that *Cutty Sark* was built for.

On 2 November, Woodget took *Cutty Sark* as far south as 60°47'S, which was very close to the most northern point of Antarctica (albeit significantly west of that point). The voyage took her through icebergs and storms, heavy rain, squalls and some remarkably clear skies en route to London. Woodget's log for the journey mentions other vessels encountered, such as *James Wishart* and *Windsor Castle*, the latter of which was destined for Calcutta. It would only have been in the latter stages of the journey from Sydney that *Cutty Sark* would have come across other ships, as the Pacific Ocean was so vast that ships rarely saw each other while crossing it. It was only once a ship rounded Cape Horn that the crew would have seen other vessels on a more frequent basis.

The return voyage from Sydney was broken down into three distinct legs.

First was the long haul from Sydney to Cape Horn; on this particular journey, it took *Cutty Sark* 23 days to round the Horn, a distance of more than 5,000 miles. Next came the leg from Cape Horn to the Equator, just shy of 4,000 miles, which took just 20 days to cover. This was then followed by the last stretch, from the Equator to London. Despite the comparatively short distance, this 4,750-mile leg took *Cutty Sark* some 30 days to cover and would undoubtedly have felt longer for the crew as they approached the end of their journey.

Seventy-three days and 14,000 miles later, *Cutty Sark* arrived in London in a new record time despite having faced horrendous conditions on the way. It was an astonishing achievement, and testament to the capabilities of both the ship herself and her master and crew. *Cutty Sark*'s great rival, *Thermopylae*, facing the same conditions, took a whole week longer to arrive in London.

Cutty Sark*'s mast head vane*
National Maritime Museum, London, Cutty Sark Collection (ZBA7752)

In 1886 *Cutty Sark* again comfortably beat her long-standing rival *Thermopylae* back to London. In recognition of this feat, Jock Willis presented her with a gilded weather vane in the shape of a 'cutty sark',

rumoured to have been inspired by *Thermopylae*'s own weather vane, a golden cockerel. Willis's show of celebration was fully merited; *Cutty Sark* was now at the very peak of the wool trade and had no serious rival. With Woodget continuing to serve as master, Willis as invested in the ship as he ever had been, and business booming, *Cutty Sark* was finally achieving what Willis had intended all along. Her commercial performance was strong, and her reputation was now far-reaching. It may have taken 16 years to achieve, but Willis now had the ship he had dreamed of, and she was in a position to build on her successes. The coming years were to be an exciting time for both owner and crew.

– 5 –

HOW SHIPS WORKED

Unsurprisingly, metaphors for speed are regularly employed to describe *Cutty Sark*. For a ship that could achieve a top speed of 17.5 knots, or roughly 20 miles an hour, with just the power of the wind and the skill of her crew behind her, this is not unwarranted hyperbole. The current Royal Navy Type 45 Destroyers can reach a top speed of just over 30 knots. And so to call *Cutty Sark* the Ferrari of her day seems a fair description, particularly as the right conditions – the best equipment, a skilled driver and a skilled team – would have been needed for her to excel.

SAILS

Cutty Sark had the largest sail area of any ship in the wool trade. At most, she could set 32 sails consisting of 32,000 square feet of canvas. Apart from the large main sails (‘the courses’) on each mast, the spanker (the fore-and-aft sail on the mizzen mast, the furthest back of the sails) and the skysail (the sail at the very top of the main mast), all other sails were to be of the same size so that they could be interchangeable. Each of the ship’s masts was capable of holding at least five sails, with the three courses at the bottom and additional sails above available when the wind was right. As clipper ships had to cope in a wide range of weather conditions, their sail plans had to be versatile. It was the draughtsman John Rennie who made all the calculations for her sail area, which would be crucial in determining how the ship would cope at sea. When

the early American clipper *Sea Witch* achieved a record-breaking passage back from Hong Kong, part of her success was attributed to an experienced master mariner having been employed to devise her sail plan and rig. Indeed, according to Basil Lubbock, in devising a sail plan there is nothing more important than the proper placing and raking of masts, and it is interesting that draughtsman Rennie contributed in this way to *Cutty Sark*'s successful design.

Painting of the Cutty Sark *under full sail as a tea clipper, Frederick Tudgay, 1872*
National Maritime Museum, London, Cutty Sark Collection (ZBA7720)

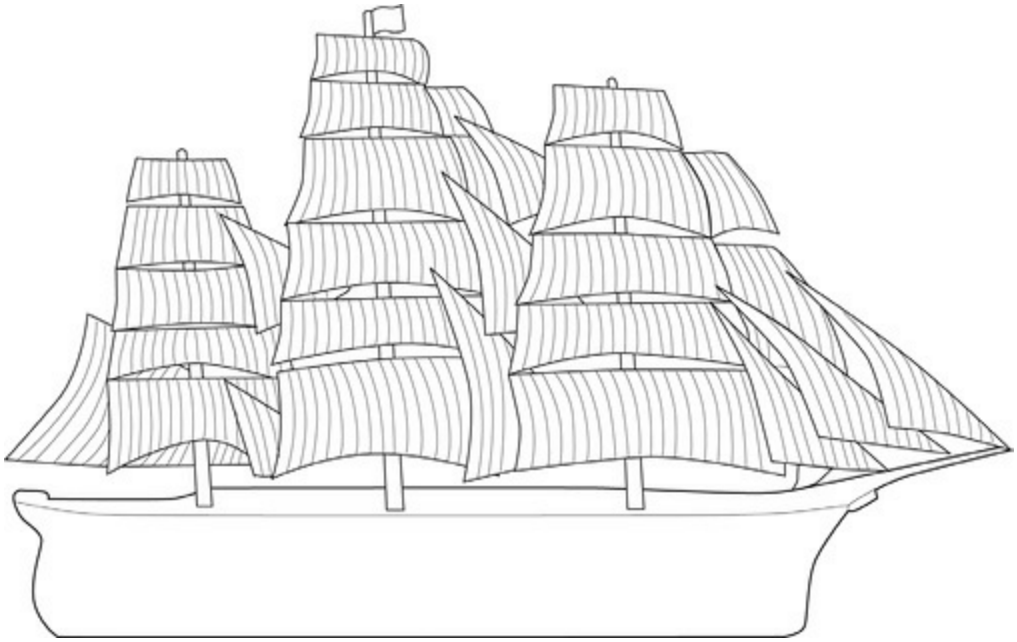
Sails were made from flax, cotton or hemp, depending on the grade of the ship. According to *Cutty Sark*'s specification, she was to have 'sails of best extra all long flax canvas'. The canvas was made around 23 inches wide and a series of widths of cloth had to be sewn together to form a sail. When not in use, *Cutty Sark*'s sails were kept in a sail locker under the poop deck, at the rear of the ship.

RIGGING

Cutty Sark's standing rigging, which supported the masts, would have been

made of wire. Her running rigging, used to control or set the yards and sails, was made of hemp rope. In all, *Cutty Sark* had a massive 11 miles of rigging. The crew would adjust the controlling ropes of the sails and yards in order to keep the sails taut or slacked off. In strong winds, the sail was reduced, and in lighter winds, the sails were unfurled. Sailing close to the wind in full sail was fraught with danger. If a sudden squall developed, rigging or spars could give way or sails could split. It was down to the master of the ship to decide how much sail to take in or set. According to Lubbock, the main weakness of William Bruce (the ill-fated master of the 'Hell-Ship Voyage', as we shall see) was that he 'was no carrier of sail' and was a 'downright physical coward'. Master Woodget, on the other hand, was adept at keeping as much sail aloft as the ship could bear when the winds had picked up.

To haul a sail up, the crew would simply use ropes from the main deck. This was not possible for the higher sails, the topsail and topgallants. The yard could be lowered down the mast to take some of the wind out of the sail, but if more was needed, members of the crew would have to go aloft and spread themselves along the yard to gather the sail in by hand. This would mean balancing their feet on the footrope below the yard and resting their chests against the yard to achieve as secure a position as possible. With her main mast reaching a height of over 150 feet, this was not a task for the faint-hearted.



Sail plan for Cutty Sark.

USING THE WIND

The angle of the sails in relation to the wind would determine what direction the ship would take. A ship cannot sail into the wind, but it can sail across and towards the wind by changing the angle of the yards. If the wind was blowing directly behind the ship, the yards and sails could be set square to the centreline of the ship and the ship would sail virtually in a straight line. If, however, the wind was blowing into the bow of the ship, it could only move forward by a process of tacking. By angling the yards and alternating from port to starboard, the ship could zigzag across the wind. As the ship turned, all the necessary sails would have to be adjusted into new positions at exactly the right moment. The crew would have to be perfectly coordinated.

RUDDER

Cutty Sark's rudder was made of English oak. As a means for pointing the ship in the right direction, it was of little use on its own. But coupled with the sails, it was used to fine-tune the course and make allowances for small changes in the wind. The steering mechanism, linking the ship's wheel to the rudder, was a vast improvement upon the tiller system on earlier larger vessels. It meant that the helm was always put in the opposite direction from which the ship's head was to be moved. Moving the rudder from one side to the other would cause the water to strike against it, pushing the stern in the opposite direction. Balancing the sails appropriately would mean that just a slight change of her helm could alter *Cutty Sark*'s direction.

ANCHOR

Letting go an anchor as a ship approached a harbour was a relatively simple exercise. Weighing the anchor was more challenging and would require most of the crew. Capstan bars would be used to slot into the capstan (located at the centre of the raised anchor deck at the bow of the ship) and rotate it. A messenger line attached to the anchor would gradually haul it in. The heaviest part of the job was when hauling in the anchor cable and then the anchor itself. The windlass (located just below the anchor deck) would manipulate

the anchor chain, allowing the anchor to be raised by means of the chain cable. The notched wheel of the windlass would engage with the links in the chain. As the cable came in, the crew would guide the chain through the spurling pipes into the cable lockers, which were below deck. The anchor would be secured alongside the bow. According to *Cutty Sark*'s specification, the ship's anchors had to be 'admiralty tested' to ensure their quality.

CUTTY SARK'S BOATS

Cutty Sark had four boats on board – two lifeboats, a jolly boat and a captain's gig. They were all stowed above the deckhouses on timber beams called skids. The boats would be lifted over the side of the ship by the use of davits (crane-like devices), blocks and tackles. The captain's gig was the master's taxi to shore, usually rowed by apprentices. The jolly boat was used to ferry other personnel or guests from the ship to shore. Often when the ship was at anchor a boat would be put ashore so that the ship's arrival could be noted and a berth negotiated for it. The lifeboats were, of course, to be used to rescue crew members from the sea. Sadly, they were not always successful. When Master James Wallace stepped overboard in September 1880, a lifeboat was quickly released to search – in vain – for him. When Able Seamen John Doyle and John Clifton were washed overboard in 1893, there was 'too much sea to lower a boat'. In heavy weather in 1885, the port-side lifeboat was lost. It would not be replaced until the following year.

PILOTS AND TUGS

When entering or leaving port, *Cutty Sark* would set little sail. In river ports such as London and Shanghai, the rivers were too narrow for a sailing ship to navigate under her own power. Instead, steam paddle tugs were usually employed to tow such ships. For instance, as Hankow, the Chinese port from which *Cutty Sark* would load her last four tea cargoes, was 600 miles upriver, a long and expensive tow taking up to six days would be necessary. The tugs would also guide these ships to the open sea, and it was only here that a ship would set any substantial amount of sail. Most maritime nations control their coastal waters, and local qualified experts – pilots – are taken on board, for a fee, to navigate a vessel coastwise.

EQUIPMENT ON BOARD

Cutty Sark's specification listed all that Scott & Linton were expected to supply. Seventy-five points are recorded, outlining hundreds of individual items, from two 'fancy bread baskets' to a dustpan. Among this extensive inventory was '1 Teak Medicine Chest with [s]lips of names on it and fitted with medicines according to Act of Parliament'. A merchant ship would not have had a trained surgeon on board. It was the master of the ship's responsibility to dispense medical treatment. Board of Trade publications provided advice on how to diagnose conditions and how to treat them, but no more than that.

Also among the many items listed was '1 Set of Signals (largest size), Mercantile Code and Book complete with Signal Halliards'. Signal flags provided an international language that enabled captains to communicate with port authorities or passing ships without knowing their language. They were also used to display a ship's unique name (confusingly also known as the 'number'), which, in *Cutty Sark*'s case, spelt out the initials of the ship's owner, Jock Willis: JKWS.

Cutty Sark was also to be equipped with three binnacles. A binnacle is a protective case or stand within which a compass is fitted. The most important one for *Cutty Sark* was her steering binnacle, which could be found in front of the ship's wheel, assisting the helmsman with the accurate navigation of the ship. Over time, compasses were improved by being fitted with adjustable correcting magnets to counteract the magnetic deviation caused by the iron in ships.

Also listed were '1 Log Reel … 1 Deep Sea Lead Line', used for measuring the ship's speed. Previously, a common log was used for this purpose, whereby a wooden board attached to a log line was allowed to run out into the water for a specified period of time. The length of this line indicated the distance sailed. The log line would be knotted at regular intervals so that the number of knots in a given period of time would reveal the ship's speed. By *Cutty Sark*'s time, Edward Massey's log offered a more scientific approach to accomplishing the same task. The Massey log was a small streamlined container at the end of a log line. A rotator at the end recorded the distance on dials. Every four hours, the log would have to be hauled in to take the necessary readings. A lead line was used to measure depth. Not only would

this help a ship to avoid shallow depths and rocks, which could cause damage or even wreckage, it also enabled analysis of the seabed, which could help to determine a ship's position. The line was marked with tags of differing material to indicate depths in fathoms (6 feet), with a lead weight at one end. This was lowered over the ship's side until it hit the bottom, and the depth was read off the line. The lead itself could be 'armed' with a plug of tallow in a hole in the bottom end. This would bring up fragments of the seabed, which could be read by skilled navigators to indicate location.

LOGBOOKS

Each vessel carried several logbooks. The 'official log' was usually kept with the Agreement and Crew List. A requirement of law, it was used to record relevant information on the navigation, the organisation of crew and the activities on board. The official log for *Cutty Sark*'s third voyage is stamped on the final page by the Registrar General of Shipping to 'certify that this Book has been carefully examined'. Sadly, not all of *Cutty Sark*'s official logs survive. Deck logs and abstract logs were also kept, but their content was dependent upon the dedication of the author.

THE MASTER'S CABIN

The articles expected in the master's cabin paint a picture of his core responsibilities: 'to be fitted with drawers, Chronometer Case, Chart Racks etc.' Navigating the ship's course and using all the necessary tools to do so was the fundamental responsibility of any captain of a ship. In practice, much of this would take place in the captain's saloon. In the open ocean, a master could plot his position through either dead reckoning or astronomical navigation. Dead reckoning involved calculating a ship's position by using a previously determined position and plotting it against the ship's estimated speed and course. It was a useful but not particularly accurate method. Astronomical navigation involved plotting the ship's position by taking sights, at noon and again at twilight, of the sun and other celestial bodies and referring to published tables. A sextant would be used to measure the angle between two objects, and a chronometer to take the time of the measurement in order to calculate a position line. As a sextant and chronometer are not listed in *Cutty Sark*'s specification, it would seem that the master was

expected to arrive equipped with certain items himself. It is likely that he would also have arrived with basic projection charts.

NAVIGATION

Deep-sea navigation had been transformed in the 1850s by the work of Lieutenant Matthew Fontaine Maury of the US Navy. Following an injury, Maury was seconded to a desk job, where he began to record observations in weather, winds and currents accumulated within the US naval records. In 1854, he pulled all of these observations together in *The Physical Geography of the Sea*, a publication that dramatically improved understanding of the world's oceanography. Doubtless *Cutty Sark*'s masters would have employed his findings in their navigation of the ship.

TELEGRAPHY

By the end of the nineteenth century, *Cutty Sark*'s masters were using telegraphy to communicate with Jock Willis, and he with them, from the corners of the globe. When Master James Wallace arrived in Anjer earlier than expected in 1880, he had to wait for a telegram from Willis to confirm the next step. Within the *Cutty Sark* papers that survive, a telegram from Master Moore (presumably to Jock Willis), of 26 September 1882, states: '*Cutty Sark* probably ready to sail on or about Tuesday 3 October, Moore.' A list of the telegrams, and their cost, that Moore sent while in Madras that same month also survives. It shows that Moore was attempting to arrange cargoes with numerous places and was communicating this back to Willis in London. Having secured a cargo of palm sugar and redwood, the ship set out for Bimlipatnam (Bheemunipatnam, on the south-east coast of India).

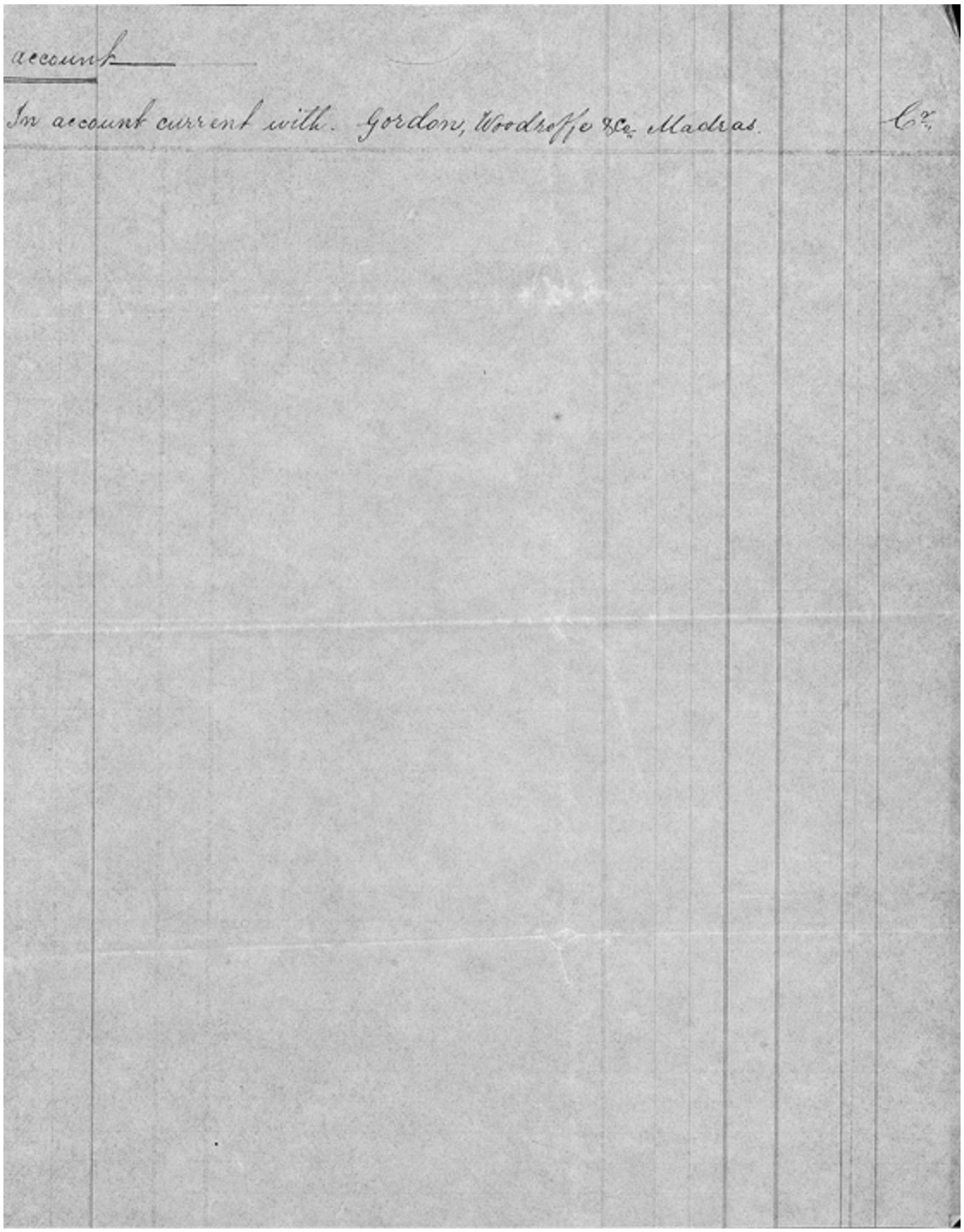
SAIL VERSUS STEAM

Steam-powered vessels made extensive progress over the course of the nineteenth century. Yet they were far from the finished article, and many shipowners, including Jock Willis, observed that steamers had a long way to go before they could become viable in their own right. So heavily dependent were they upon their fuel that they could only go as far as the coal they were carrying could take them. With few coal stations available, the possibilities

for them seemed limited. Furthermore, where coal was expensive and space-hungry in the steamers, the wind was free, and cargo space was bountiful in sailing ships. For those in the tea trade, many also still held on to the belief that iron hulls would cause a cargo of tea to sweat and rot. Others believed that the crews of steamers could not possibly withstand the grim and relentless task of stoking steam engines – coal had to be shovelled at a rate of almost one hundredweight (50 kilograms) a minute. While today we may regard this reticence as conservatism, the ascent of the steamship was not a smooth one. The danger, expense and unknown factors involved made them an unattractive proposition for many, with the pioneering work having to be undertaken by visionaries, speculators and risk-takers.

In 1827, 225 steam vessels were registered in Britain. Just two years before, George Stephenson's Locomotive No 1 had graced the Stockton to Darlington train line. Two years later, his famous *Rocket* won the Rainhill Trials. The General Steam Navigation Company was already running commercial passenger services between London and Hamburg and between Brighton and Dieppe. For many, the natural next step seemed to be a steam-driven transatlantic voyage. Migration had increased hugely over the course of the nineteenth century. The Irish Famine, the gold rush in America and then Australia, and simply the promise of a better life abroad meant that there was a growing demand for passages overseas.

			Open	Sketch
Dr.	Captain & Owners of the "Cutty Sark"			
1882				
September 30	To Cost of Telegram to Gopaulpore		1 "	"
November 7	" do do Colombo		2 1	"
"	" do do Cochin		" 8	"
"	" do do Rangoon		1 "	"
"	" do do Pondicherry		2 4	"
"	" do do Bimlipatam		1 "	"
"	" do do Gopaulpore		1 2	"
"	" do do Coconada		1 2	"
"	" do do London		11 "	"
10	" do do Bimlipatam		1 6	"
13	" Cash paid to Captain Moore as per receipt		50 "	"
11	" do do do		50 "	"
13	" Cost of Telegram to Bimlipatam		1 4	"
"	" do do Berhampore		1 "	"
17	" do do London		11 "	"
21	" Landing charges on 15 Packages sails & roping for Captain		6 4	"
18	" Cash paid to Captain Moore as per receipt		50 "	"
"	" One set of charts Bay of Bengal in 2 sheets		4 "	"
20	" Superintendant Mercantile Marine wages on account of W Ebraham Seamen		184 7	6
"	" Cost of Telegram to Bimlipatam		" 8	"
25	" do do Berhampore		" 11	"
Decr 4	" do do London		19 4	"
6	" do do London		33 "	"
8	" do do London		8 4	"
	" Port dues on 921 Tons @ 2/4 as per ton		129 8	3
13	" Cash paid to Captain Moore as per receipt		20 "	"
15	" do do do		50 "	"
	" Deputy Commissioner of Police for working after Office hours on the 12th Instant		2 8	"
1883 January 8	" Cost of Telegram to Bimlipatam		1 "	"
"	" do do		1 2	"
"	" do do London		8 4	"
		Carried over	654 7	9



List of telegrams sent by Moore in Chennai
National Maritime Museum, London (LUB/12)

TRANSATLANTIC DEVELOPMENTS

Isambard Kingdom Brunel, chief engineer of the Bristol-based Great Western

Railway Company, began to design a ship, SS *Great Western*, that would enable passengers to travel from London to New York on the same ticket. Not to be outdone, the British & American Navigation Company decided to send *Sirius* in competition. Neither ship had an easy run. *Great Western* set sail from Bristol for London in order to have her engines fitted by Maudslay, Sons & Field (the same firm that would build *Blackadder* and *Hallowe'en* for Jock Willis). However, a fire broke out, injuring Brunel, and the voyage was postponed. Fifty-five passengers lost their nerve and cancelled. Just seven embarked. *Sirius*, meanwhile, had not been built for the Atlantic run. Setting out four days before the *Great Western*, she managed to narrowly beat her rival, arriving in New York first on 22 April 1838. The cabin furniture and a mast had to be burned in order to make this possible. Nonetheless, *Great Western* would go on to complete 64 transatlantic crossings, and her activities encouraged the government to seek an operator to transport mail across the ocean. The Cunard Line (officially the British and North American Royal Mail Steam-Packet Company) was awarded the contract. But while steamers could now secure passenger bases and mail contracts, albeit not without difficulty, they were yet to trouble sailing ships in the conveyance of cargoes.

It was not until the late nineteenth century that they could properly be called 'steamers' at all. Even Isambard Kingdom Brunel's titan ship SS *Great Eastern* carried six masts, which could be relied upon when all else failed. In collaboration with John Scott Russell (a naval architect of Scottish origin and discoverer of a phenomenon called the 'Wave of Translation', or 'solitary wave'), they set about constructing the largest ship ever built, capable of carrying 4,000 passengers. Her bunkers were to hold 15,000 tons of coal, giving her an unprecedented range for a steamship across the world's seas. The construction, however, was beset by difficulty. Fire, the Crimean War, arguments and death meant that the project had cost £1 million before the ship had a single paying passenger. A special sideways slip even had to be built on the Isle of Dogs in order for this titan of ships to be launched on 31 January 1858. When the ship finally embarked on her maiden voyage to New York, only 35 passengers were on board, and two members of the crew had died once they reached America.

The *Great Eastern*'s transatlantic service was relatively dire. The ship required far too many crew for her to be able to compete in this growing market. It would take some time for her to find a new purpose, with her high

costs acting as a deterrent for many. Eventually she was employed in laying telegraphic cables across the Atlantic and Arabian seas. Converted for this new purpose, she laid insulated cable on stretches of the seabed so that telecommunication signals, in the form of telegrams, could be transmitted. While her contribution to the development of this new science was undoubtedly impressive, steamers still seemed a far too risky and unknown prospect for the generation of shipowners to which Jock Willis belonged. Even the opening of the Suez Canal did not make an immediate impact. Although it cut the voyage to China by 3,000 miles, the windless conditions of the Red Sea and the expensive tolls of the canal meant it was simply not an option for the sailing ship. By 1870, the net tonnage of steam vessels had risen to 1,112,934 tons. In comparison, the net tonnage of sailing ships in the same year was a huge 4,577,855 tons.

Suez Canal
National Maritime Museum, London (HP1975/4)

Eight years after the Suez Canal opened, however, the advantages of this ‘shortcut’ could no longer be denied. By then, *Cutty Sark* was one of only

nine sailing ships left in the tea trade. Most of her contemporaries had already sought other bulk cargoes such as Australian wool. The absence of a sufficient number of coal stations meant that steamers could not yet compete in long-distance cargo-carrying trades. In fact, many sailing ships enjoyed lucrative trade in delivering coal for steamships. *Cutty Sark* herself would carry around 10,000 tons of coal in the course of her active years, far greater than the amount of tea she ever carried. In many ways, the steamships that would one day supplant *Cutty Sark* in the tea and then wool trades contributed to her longevity by helping to develop telegraphy and demanding the quick conveyance of coal. From the 1870s, however, the triple-expansion engine, allowing steam to be used three times before being turned back by a condenser into fresh water for the ship's boilers, provided greater efficiency for steamships, which could now go for longer distances before re-coaling. It wasn't long before the steamers would dominate the wool trade just as they had come to in the tea trade.

– 6 –

TRAMPING: 1878–83

With the number of steamships serving the China tea trade steadily increasing since *Cutty Sark*'s launch in 1869, it was only a matter of time before Jock Willis would have a difficult decision to make. Unfortunately for Willis, the decision was made for him by the events of 1878.

BOUND FOR HANKOW

Departing London on 3 November 1877 under the command of William Tiptaft, *Cutty Sark* was bound for China via Sydney for her ninth season in the China tea trade. Tiptaft had been appointed master of *Cutty Sark* in 1873, following on from Francis Moore, who commanded her for one voyage in the wake of George Moodie's resignation in 1872. Having already successfully completed five tea voyages for Willis, Tiptaft was considered a safe, dependable master, someone whom Willis trusted to bring cargo back from China in a quick but ultimately secure manner. The cargo on the outbound voyage was once again a general cargo, and included a variety of items, as the demand for quality British merchandise was high all over the world.

Cargo Aboard *Cutty Sark* on 1878 Outbound Voyage

Kegs of nails	*643*
Bundles of wire	*387*
Cases/casks of wine and spirits	*310*
Boxes of candles	*300*

Anchors	*67*
Chains	*27*
Other packages	*11,000 +*

No sooner had *Cutty Sark* reached the English Channel, however, than she ran into a huge gale. Over the course of the next two days, she lost both her anchors and cables, colliding with two other vessels and requiring a rescue from two small tugs. She returned to London for repairs, departing for China once again on 2 December, a full month later than originally scheduled. The late departure was to play a significant role in the events of the coming months.

When *Cutty Sark* finally arrived in Sydney on 13 February 1878, the *Sydney Morning Herald* made note of her performance:

> *Among the splendid fleet of vessels sailing out of the port of London … the clipper Cutty Sark is one of the foremost, particularly as regards speed. While employed in the China trade she placed her name on more than one occasion in the premier rank, and she still would appear to be keeping up her prestige … this vessel has made the crack passage of the season viz. 72 days.*

For a ship that had struggled to perform to expectations, such a fanfare would have been the perfect fillip for her owner and crew. Little were they to know, however, that the next few months would be some of the most challenging of *Cutty Sark*'s career so far.

TEA SHORTAGE

From Sydney, Tiptaft took *Cutty Sark* up to Hankow, arriving in May 1878. Due to her late arrival, there was only enough tea left in Hankow to fill up half of *Cutty Sark*'s hold. Tiptaft thus elected to make for Shanghai, where he was again unable to find enough tea to fill her hold. There were two reasons for the lack of tea: one was the month-long delay in departing London, in which time much of the available tea would have been procured for the ships ahead of *Cutty Sark*; the other was that steamships had now taken such a hold on the tea trade that sailing ships like *Cutty Sark* were simply no longer guaranteed tea cargoes, as they had been for so many years. With the Suez Canal now allowing steamships to take more than 3,000 miles off the return

voyage to London, and steamship design developing over the years to allow more cargo to be stored, ships such as *Cutty Sark* were slowly being squeezed out of the trade – a sad fact that would by now have been clear to Tiptaft.

TIPTAFT'S LAST VOYAGE

After spending so long at sea, and needing to find a cargo to make the additional sailing worth his while, Tiptaft went on to Nagasaki in Japan, hoping to secure a coal cargo; he then planned to return to Shanghai in the hope that the delay would allow time for new tea cargoes to have been delivered to Shanghai's docks by the time they arrived back there. However, this was to be Tiptaft's last voyage; he fell ill on the return leg, passing away on the same day *Cutty Sark* arrived back in Shanghai, on 12 October 1878.

Tiptaft's death at the age of 35 left *Cutty Sark* in a very difficult situation. She was thousands of miles away from her home port, could only find half a cargo of tea for her hold, and seemingly had no prospects of more tea becoming available. On top of all that, she now had no master and, having over the years faced some of the worst storms any ship could weather, *Cutty Sark* was now facing her most dangerous test to date.

END OF AN ERA

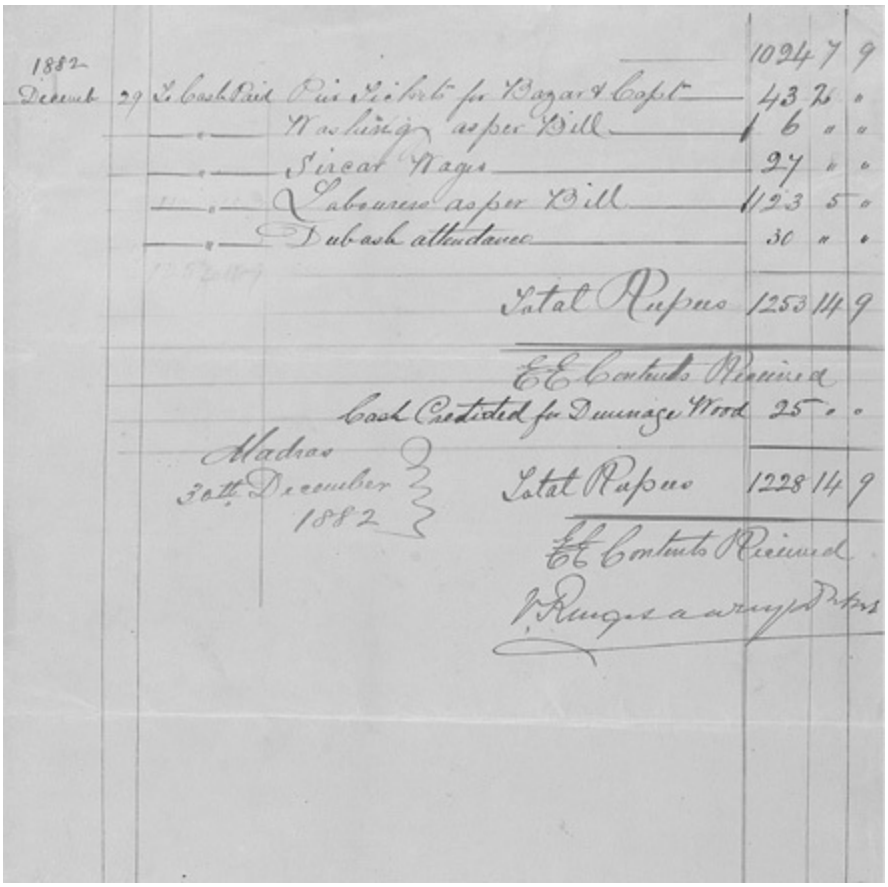
James Wallace, Tiptaft's first mate, was promoted to master and immediately made for Sydney for another coal cargo bound for Shanghai. Wallace intended to then pick up more tea and make for London. It was a desperate tactic, as *Cutty Sark* had by now spent more than a year in the Far East, and had already twice been unable to secure a sizeable enough tea cargo to head home. Unsurprisingly, upon *Cutty Sark*'s return to Shanghai there remained no tea available. After several passages around the Far East, it was now June 1879, more than 18 months since *Cutty Sark* had originally departed from London for what was expected to be another straightforward tea run.

Cutty Sark's days in the tea trade were now essentially over. Willis's agents in the Far East were left with little choice but to take an irregular stream of contracts to cover costs and to keep the ship in use and maintained. This marked a new era in the history of *Cutty Sark* and was a period of considerable insecurity for Willis, his agents and the crew. Some of her voyages over the next five years saw her less than half-loaded with cargo; she

was also to carry her last-ever tea cargo in 1881, taking tea from Calcutta to Melbourne.

TELEGRAPHY

None of this would have been possible without the complex network of telegraphy that had been set up between Britain and the Far East over the preceding decades.



Telegram receipt
National Maritime Museum, London (LUB/12)

The telegram had been invented around four decades earlier by Samuel Morse, and it transformed the world. Communication was now possible from America to Britain, from Britain to China, and to many places in between. The system used Morse code, named after its inventor, to replace the letters of the alphabet with a series of dots and dashes. A message would be translated into Morse code, transmitted, then translated back into English;

this was originally done in the form of marks on paper, but was eventually improved as operators receiving the message could decipher Morse code by listening on the receiver for the clicking. The message was sent through telegraph wires laid at the bottom of the sea, and was picked up at the other end in a matter of moments. This pioneering technology allowed Jock Willis to send messages to his agents all over the world quickly, rather than by much slower post – on average, a letter to Shanghai took around two months to arrive. Telegraphy changed the known world and allowed business owners such as Willis to capitalise on opportunities as they came up, rather than relying on agents on the other side of the world to make decisions on their behalf.

EARLY TRAMPING DAYS

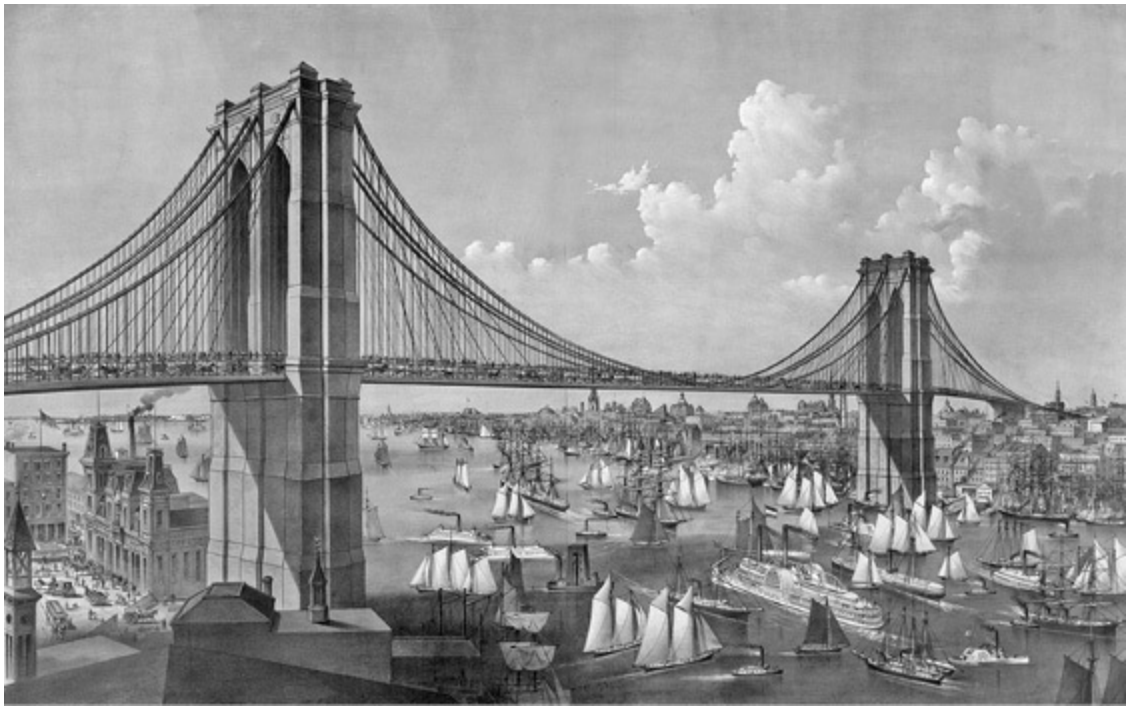
The difficulties of tramping – carrying and delivering cargo wherever it was available, and not following any regular route – were already becoming evident to Willis. While the other ships in his fleet would likely have experienced some element of tramping throughout their careers, none spent as much time floundering for cargo as *Cutty Sark*. Already she had spent nearly a year longer at sea than she ought to have done, and had carried relatively little cargo during that time. The business of tramping for cargoes, while providing the means to keep a ship going, was neither profitable for the owner nor strategically sound in the long term. The risks associated with going from port to port, single cargo after single cargo, could see even a ship with *Cutty Sark*'s reputation become obsolete. A regular market of goods was needed, rather than risking such a valuable asset as *Cutty Sark* on the comparatively trivial profits generated by tramping.

With no hope of filling her hold with tea, Wallace left Shanghai on 12 June 1879 and made for Manila in the Philippines. Her hold filled with jute, and after a delay of some three months in port, *Cutty Sark* moved on to New York, her first foray into the North American market. The voyage took 111 days, taking the ship into unfamiliar waters and allowing the crew to experience new horizons.

NEW YORK

New York at this time was a thriving harbour, with 60–70 per cent of all

imports to the United States coming through the city. As the pre-eminent city on the east coast of North America, it had become a hub for immigrants from all over the world, including Europe. It was also expanding its cultural influence, with Broadway and Times Square in particular becoming ever more popular and renowned. *Cutty Sark* is believed to have moored in the South Street quays, near Brooklyn Bridge, where only the most famous and important ships were permitted to berth.



The great East River suspension bridge, connecting the cities of New York and Brooklyn. Parsons & Atwater, del. New York. Published by Currier & Ives, c.1874. Image courtesy of Library of Congress

With the city's textile industry growing exponentially, *Cutty Sark*'s cargo of jute, a cheaply produced natural fibre, was a good way for Willis to get back into profit, albeit not nearly enough to make up for the lack of income brought in by the ship over the previous two years. After delivering his cargo, Wallace was instructed to take a cargo from New York across the Atlantic and back to London. *Cutty Sark* left New York on 14 February 1880, and arrived back in London on 9 March. The passage of 19 days from New York to the mouth of the Thames was the year's best passage by three days.

HOME SWEET HOME

Cutty Sark's return home came 858 days after her aborted departure from London in November 1877. It was much needed. Such a long time away had meant that *Cutty Sark* was in dire need of maintenance; she spent more than two months being refurbished before setting sail in May 1880 for Penarth in Wales, to collect another coal cargo destined for Japan.

During these two months, *Cutty Sark* had her lower masts cut down by 9½ feet, along with a similar proportion being removed from her upper masts; her yards were also shortened, by 7 feet on the lower yards and by a smaller amount on the upper yards. This meant that she required a smaller crew on future voyages, but also meant that she lost some speed when sailing in light winds. It was a compromise Willis would gladly take, as *Cutty Sark* spent most of her time in strong winds, and the savings made, in terms both of maintenance and of pay for the seven or so crew who were no longer required, more than outweighed any lost time.

HELL-SHIP VOYAGE

Throughout *Cutty Sark*'s career no other voyage was to cause as much controversy, or tragedy, as the voyage of 1880. Known as the 'Hell-Ship Voyage', and detailed in the next chapter, it resulted in the manslaughter of one member of the crew and the suicide of the ship's first master on the voyage, James Wallace, and some exceptionally difficult times for *Cutty Sark*'s crew.

The 'Hell-Ship Voyage' took *Cutty Sark* not to Yokohama in Japan, as originally intended, but instead to Anjer, and then on to Singapore. In Singapore she welcomed on board her fifth master, William Bruce. Bruce was the least effective, and least popular, of all *Cutty Sark*'s masters, and caused significant hardship to his crew as well as to the pocket of Jock Willis. Maintenance of the ship was not carried out to a sufficient standard under Bruce, and Willis was not able to replace the necessary stores *Cutty Sark* required due to the losses he incurred during Bruce's tenure.

THE CREW REPLACED

After a handful of cargo runs in the Far East, from Singapore to Calcutta

(Kolkata) in India, to Melbourne in Australia, to Cebu in the Philippines and on again to New York, *Cutty Sark* came to the end of a tumultuous period lasting 697 days since she had left London to pick up Welsh coal bound for Japan. A furious Willis removed Bruce as master of *Cutty Sark* upon arrival in New York, and replaced the entire crew with the crew of his most reliable ship, *Blackadder*. With her crew now turned over to her sister ship, *Blackadder* sat in New York until 16 May 1882, some six weeks after first arriving in New York from Shanghai. For Willis to sacrifice *Blackadder*'s earning potential for that of *Cutty Sark* showed that, despite her recent troubles, *Cutty Sark* remained at the very forefront of Willis's fleet.

Blackadder's crew had included Frederick Moore, who now became the sixth master of *Cutty Sark*. Though he didn't know it, Moore was about to usher in the greatest era in *Cutty Sark*'s history, as she had one final tramping voyage left in her before her fortunes were to finally turn. She left New York under Moore's command on 4 May 1882, bound for Australia with a cargo containing nearly 27,000 cases of paraffin oil, totalling more than 120,000 litres. On arriving at Anjer – which was to be destroyed the following year by a tsunami caused by the eruption of Krakatoa – Moore received word from Willis to change course and instead head for Semarang in Indonesia.

HOME ONCE MORE

From Semarang, after a stop of six weeks, *Cutty Sark* sailed to Madras (Chennai) without cargo, then on to Bimlipatnam with a cargo of palm sugar and redwood. From there, Moore took her on to Kakinada in India with a cargo that included more than 4,000 buffalo horns. Returning from India with another cargo of general goods, *Cutty Sark* arrived back in London in June 1883. It was only the second time in six years that she had spent time in her home port, where she had been berthed for just 65 of the previous 2,008 days. This was to be *Cutty Sark*'s last general cargo bound for London, and it included 115 bales of deer horns and nearly 5,000 bags of myrobalans, or cherry plums, to be used for dyeing fabric.

The years of tramping around the Far East for cargo had proved difficult for Willis's agents. With regular tea runs, the process of securing cargoes had been relatively straightforward, but with *Cutty Sark* sailing from port to port without a long-term strategy, Willis's agents were forced to coordinate plans

from diverse ports around the world, which, even with the innovations in telegraphy, would have proved challenging. *Cutty Sark* was forced to spend more time in port than was normal, reducing her earning potential and allowing standards aboard to slip.

LOST EARNINGS

On the first round voyage of her tramping years – the 771 days from London through to her first arrival in New York – *Cutty Sark* spent more than 350 of those days, or nearly half of them, in port. This was due to the difficulty in securing a tea cargo and the untimely death of William Tiptaft, as well as the general delays in loading and unloading cargo. On the second long voyage of the tramping years, covering the 697 days between her calls to New York, she spent around 300 days in port, again due to difficulties involving cargo and also due to the replacement of crew. On her third and final leg, from New York to London via India, she spent around 140 of the 394 days of the voyage in port. Willis could not allow this trend to continue, as the longer a ship spent in port, the less cargo she transported, and the less effective her crew became as they grew more accustomed to the relative luxuries afforded on shore.

***Cutty Sark*'s Tramping Years**

Voyage	Master	Departed	Arrived	Cargo
11th	*J. S. Wallace*	*Sydney 18.03.1879*	*Shanghai 02.05.1879*	*1,150 tons Wollongong coal*
11th	*J. S. Wallace*	*Shanghai 12.06.1879*	*Manila ?.07.1879*	*Shingles (in ballast)*
11th	*J. S. Wallace*	*Manila (Philippines) 23.09.1879*	*New York 12.01.1880*	*Unknown*
11th	*J. S. Wallace*	*New York 13.02.1880*	*London 09.03.1880*	*Ballast*
12th	*J. S. Wallace*	*London 13.05.1880*	*Penarth (Wales) 22.05.1880*	*Ballast*
12th	*J. S. Wallace*	*Penarth 04.06.1880*	*Anjer 22.08.1880*	*Coal (amount unknown) for American fleet*
12th	*J. S. Wallace*	*Anjer 05.09.1880*	*Anjer 12.09.1880 – ship turned back for Anjer following Wallace's suicide on 9 September*	*Coal (amount unknown) for American fleet*
12th	*William Bruce, joined the ship in Singapore*	*Anjer? Received instruction from John Willis to proceed to Singapore*	*Singapore 18.09.1880*	*Coal unloaded onto SS Glencoe*
12th	*William Bruce*	*Singapore?*	*Calcutta 11.11.1880*	*Ballast*
12th	*William Bruce*	*Calcutta 05.03.1881*	*Melbourne 14.05.1881*	*Jute; castor oil; Indian tea and mail*

12th	*William Bruce*	*Melbourne 05.06.1881*	*Sydney 15.06.1881*	*Ballast*
12th	*William Bruce*	*Sydney 02.07.1881*	*Shanghai 17.08.1881*	*110 tons of coal*
12th	*William Bruce*	*Shanghai ?*	*Cebu 31.010.1881*	*Ballast*
12th	*William Bruce*	*Cebu 06.12.1881*	*New York 10.04.1882*	*Jute*
13th	*Frederick Moore*	*New York 04.05.1882*	*Semarang 20.08.1882*	*26,816 gallons of case oil*
13th	*Frederick Moore*	*Semarang 05.10.1882*	*Madras 07.11.1882*	*?*
13th	*Frederick Moore*	*Madras 28.12.1882*	*Bimlipatnam 08.01.1883*	*3,310 bags of jiggery (palm sugar); 100 tons of redwood*
13th	*Frederick Moore*	*Bimlipatnam 21.01.1883*	*Kakinada ?*	*6,240 bags of myrobolans (a kind of dye nut); 4,163 buffalo horns*
13th	*Frederick Moore*	*Kakinada 31.01.1883*	*London 02.06.1883*	*4,781 bags of myrobolans; 115 bales of deer horns*

A NEW DAWN

After five long years of tramping, Willis was about to take a calculated gamble with the future of *Cutty Sark*. There is no question that the previous five years had yielded the ageing owner little by way of profit, and had almost certainly cost him more than he had earned. *Cutty Sark* was now nearly 15 years into her career, halfway through her original life expectancy, and Willis needed her to generate the profits he had always intended when he commissioned her. His next move was to usher in the era for which *Cutty Sark* would become most famous. Following in the path of another of Willis's ships, *The Tweed*, *Cutty Sark* was about to enter into the Australian wool trade, and in so doing ensure enduring fame throughout the world.

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EXTRAORDINARY VOYAGES, PART 2

Cutty Sark's career was rarely without incident, but no voyage can compare to the drama and tragedy of her twelfth. Not for nothing did Basil Lubbock term it the 'Hell-Ship Voyage'. By the time it finally drew to a close, 697 days after the ship had first set out, seven men had died and one was a fugitive from the law.

In the spring of 1880, it was still early days in *Cutty Sark*'s tramping career. Having reduced her rig, it remained unclear what this tea clipper of old might now be available for. When an order came through from the US Navy, Willis gladly jumped at the opportunity.

A crew of 23 was hastily assembled and *Cutty Sark* left London on 13 May 1880. She was bound for Penarth Dock, South Wales, where she would collect her cargo of steamer coal destined for the US Navy based at Yokohama, Japan. Steamships may have forced *Cutty Sark* out of the tea trade, but there was still money to be made in carrying their fuel. The voyage did not start well. Arriving in Penarth just nine days later, three men deserted and two were discharged from the ship. Basil Lubbock contends that this was a direct result of the tyrannical rule of First Mate Sydney Smith. No such evidence can be traced in the logbooks, but Lubbock's contention certainly seems to gather weight as the voyage progressed.

Master James Wallace was forced to find replacement crew in Wales. It took until the first week of June for a sufficient number of new recruits to be

signed up.

The Crew

Name	Rank	Origin
James Wallace	*Master*	*Aberdeen*
Sydney Smith	*First Mate*	*London*
George Rogers	*Second Mate*	*Calcutta*
Edward Holford	*Carpenter*	*Brighton*
T. W. Wells	*Cook*	*Essex*
Alex Jansen	*Sailmaker*	*Prussia*
George Alexander	*Able Seaman*	*Trieste*
William Edwards	*Able Seaman*	*London*
Jose Camando	*Able Seaman*	*Valparaiso*
Charles Louis	*Able Seaman*	*London*
Nicolas Nicolasen	*Able Seaman*	*Denmark*
T. C. E. Nothroth	*Able Seaman*	*Hamburg*
Sam Carson	*Able Seaman*	*Savannah*
John Dorsey	*Able Seaman*	*North Carolina*
W. H. Francis	*Able Seaman*	*Chicago*
Joseph Reynolds	*Able Seaman*	*Jamaica*
John Somers	*Ordinary Seaman*	*London*
G. E. Williams	*Ordinary Seaman*	*Cheltenham*
Charles A. Sankey	*Apprentice*	*Unknown*
W. I. McAusland	*Apprentice*	*Unknown*
John Frederick Campbell Kirby	*Apprentice*	*Unknown*
Herbert Lionel Stoughton	*Apprentice – later engaged as an Ordinary Seaman*	*London*

THE VOYAGE: PART 1 (4 JUNE 1880 – 4 SEPTEMBER 1880)

The ship finally left Penarth on Friday 4 June. According to Basil Lubbock, this was the first in a long line of grave mistakes. Friday – and its associations with the crucifixion of Christ – had long been considered an unlucky day to set sail. As a young and ambitious master, having already experienced a number of setbacks, it seems Wallace was not to be swayed by superstition. His crew, however, were not of a like mind. In particular, Alex Jansen, a sailmaker, became the professor ‘of doom’. According to Lubbock, ‘his yarns were all concerned with mutiny and murder, with shipwrecks and disaster’. Jansen’s unceasing prophecies of plight and eerie ability to go without sleep made him a figure of both fear and derision. Answering to the

name of ‘Dutchy’, he was quickly christened by the apprentices ‘Old Vanderdecken’, or the ‘Flying Dutchman’ – a mythical ghost ship – both the bringer and the symbol of doom. It soon appeared that Jansen’s forebodings were vindicated. Almost immediately, *Cutty Sark* was caught in a storm and held up for a further three days in the Bristol Channel before she could finally get out to the open seas.

The ship then made a good run out to the Atlantic, passing Tenerife after 11 days at sea. After she crossed the Equator and entered the doldrums, the mood on board began to turn bleak. First Mate Sydney Smith had a temper to be reckoned with. The main target of his ire was Able Seaman John Francis (listed as W. I. Francis in the crew list), a 35-year-old from Chicago who was one of the new recruits assembled in Wales. It soon became apparent that he was not up to the job of able seaman. Old Vanderdecken suspected that he was in fact a cook and steward, while others reported that he had actually achieved his AB Certificate in steamships and was thus ill-qualified for a more demanding clipper ship. It was not unknown for men signing up to *Cutty Sark* to do so without a Certificate of Discharge (a reference from their last ship), or for them to be demoted soon after their appointment. It was not unusual, therefore to discover a charge who did not have the skills he had claimed to possess. While demoting Francis would have done little to help the crew, who felt they had to compensate for his lack of skills, it does seem strange that Master Wallace didn’t do so. Instead, he left the matter up to First Mate Smith.

Smith and Francis reportedly clashed on numerous occasions. Smith is thought to have instructed Francis to ‘please jump overboard’, and once struck him with such force that Francis bled from his ears and spent several days recovering in his bunk. Francis may not have been adequately qualified, but he was not willing to accept Smith’s attacks without retaliation. According to Lubbock, while Francis’ incompetence had not gone unnoticed by the rest of the crew, the force of Smith’s venom towards him provoked some sympathy from them. On one particular occasion, Francis angrily responded to one of Smith’s remonstrations. A baying crowd gathered. In a bid to settle the situation, Master Wallace called his officers and apprentices aft and armed them (although *Cutty Sark* is not known to have encountered any pirates, ships sailing to China were stocked with limited arms for protection and the discipline of the crew). Wallace then ordered Francis to

apologise to the first mate or face a beating from him. Francis had no intention of backing down and the two flung themselves at each other in a violent clash. Wallace reportedly brandished his captain's pistol and threatened to shoot anyone who interfered in the natural order of things. After 15 minutes, he called the fight to a halt and cautioned the crew with punishment should they abuse his officers again. The tension was momentarily dispelled, egos repaired and discipline restored, albeit in a rather dramatic fashion.

On a stormy night on 10 August, Francis was on look-out duty on the anchor deck, the raised deck at the bow of the ship. The rest of the watch grappled with the sails. The first mate hollered to Francis to 'let go the lazy tack'. Francis failed to respond. Smith hollered again, and still there was no response. The whole watch sang out before Francis let go, but rather than simply release it, he let the end fly overboard. Enraged by what Smith regarded to be a deliberate act of petulance, the first mate stormed forward, threatening to throw Francis overboard. The AB responded that he had a capstan bar waiting to hit him with. Smith himself grabbed a broken capstan bar and dealt Francis a vicious blow to the head. Francis fell to the forehatch, where he lay in a pool of his own blood. He never regained consciousness, and died the next evening. The sailmaker – the harbinger of doom, Old Vanderdecken – sewed up his body in canvas, and Francis was buried at sea. The worst, however, was far from over. First Mate Smith retreated to his cabin and a foreboding mood took over the ship.

Seventy-two days after departing from Penarth, *Cutty Sark* arrived in Anjer, where she awaited a telegram with further instruction from Jock Willis. Neither Willis nor Wallace had anticipated that her reduced rig would not slow *Cutty Sark* down and so orders had yet to arrive. Also in port was the American ship *Colorado*. The master of the *Colorado* made it known that he was in search of a mate for his ship. Wallace, perhaps sensing an opportunity to pacify his crew, agreed to transfer Sydney Smith. During a deliberately concocted commotion created by haggling with locals, Smith quietly slipped off the ship and boarded the *Colorado*. The crew were outraged, not least at Master Wallace's apparent complicity in Smith's escape from justice. They pressured their master to report the missing mate to the shore authorities. He went along with this, and all the ships at Anjer were duly searched, but to no avail. When the order to proceed to Yokohama was finally received from

Willis, the crew refused to work. Wallace was forced to rely upon his apprentices and petty officers – the bos'un, the carpenter and the sailmaker – to weigh the anchor and make sail. At this point, the rebels attempted to interfere. The four ringleaders of *Cutty Sark*'s mutiny were formally arrested and clapped in irons. The rest of the crew resentfully returned to their duties.

By now Master Wallace was well aware of the mistakes he had made. The mood on board was sour. Discipline had been lost and his authority demeaned. An investigation was likely once they reached Yokohama and his role in Smith's escape would not go unpunished. On 4 September, as the watch was called at 4.00am, Master Wallace enquired as to whether the second mate was on deck. When it was confirmed he was on his way up, Wallace retreated to the stern of the ship and quietly stepped overboard. Two lifebuoys were quickly thrown over and the crew who had defied him now hurriedly got a boat onto the water in search of their master. The water was calm and reportedly shark infested. There was no sign of James Smith Wallace. He was 27.

THE VOYAGE: PART 2 (4 SEPTEMBER 1880 – OCTOBER 1881)

The sullen, sombre crew assembled to discuss what to do next. Most wanted to press on to Yokohama but it was quickly apparent that the second mate, George Rogers, did not have the necessary navigation skills to take her there. He was so short-sighted that Wallace had regularly needed to accompany him on his watches. It was clear the ship would have to return to Anjer, make contact with Jock Willis and await instruction. Charles Sankey, the most adept of the apprentices at navigating, assisted. Once at Anjer, Rogers telegraphed Willis to inform him of the dramatic events. He refused to take command of the ship and so was instructed to engage a Dutch pilot and proceed to Singapore.

Singapore, Collyer Quay. ca. 1890–1910. Zürich, Photoglob Company. Image courtesy of Library of Congress.

Cutty Sark finally arrived in Singapore on 18 September 1880. An inquiry was launched and the crew given the option of discharge. Eight men took up the offer, including four of the men who had joined in Wales. Despite the fact that this voyage had seen such tragedy, a new master and ten men were signed up to *Cutty Sark* within a week of arrival in Singapore. John Willis sent a telegram to Master Foster of *Hallowe'en*, another of his ships located nearby in Hong Kong, asking him whether his first mate, William Bruce, was capable of taking command of *Cutty Sark*. The 42-year-old from Aberdeen was unpopular with *Hallowe'en*'s crew and Master Foster gladly assented. Bruce joined *Cutty Sark* as master on 24 September.

Written statements submitted to the Singapore Shipping Office and dated 1 October 1880 state: 'I certify that ... Sydney W. Smith – First Mate – was reported as having caused the death of a seaman W. H. Francis at sea and afterwards quitted the vessel in Anjer.' A second statement lists the new men and their wages and records the names of the men who had left by 'mutual consent'. It also notes: 'I certify that the master James Smith Wallace was

drowned at sea on 4th Sept. ... Mr William Bruce who holds a Master's Certificate – no.17559 – has been appointed master of the ship, in the place of J. S. Wallace deceased.'

Failure to make it to Yokohama meant that *Cutty Sark* had lost her charter. As a result, and in a twist of bitter irony, her cargo of coal had to be transferred to a steamship, SS *Glencoe*, which, using it as fuel, proceeded to London, via the Suez Canal, with a cargo of fresh tea. On 1 October 1880, *Cutty Sark* set out in ballast for Calcutta, arriving on 11 November. There she would stay for a further four months before a cargo could finally be found. Between November and February the following year, a further 14 members of the crew were paid off. Now only the apprentices, together with the carpenter, Edward Holford, and the sailmaker, Alex Jansen, remained from when the ship had first set out in May. Upon finally securing a cargo of jute, castor oil, Indian tea and Australian mail, *Cutty Sark* was ready to set out for Melbourne, Australia. Interestingly, the tea was the first to be shipped out of India to Australia, and this was to be the last time the famous tea clipper would carry tea. Yet another crew of 16 was assembled and *Cutty Sark* left Calcutta on 5 March 1881.

But *Cutty Sark*'s saga of misfortune was far from over. Despite Bruce's lack of nerve, the ship arrived in Melbourne in May, a little over a year after she had first left London. It was here, according to Lubbock, that 49-year-old Able Seaman William McGregor from Glasgow drowned. Lubbock suggests that he had drunkenly fallen into the water on the first night when the ship was alongside the wharf. He had only joined the ship three months previously.

Master William Bruce receives a scathing review from Basil Lubbock. Deemed a 'nautical Jekyll and Hyde', he is described as a drunk with pretensions of religious piety. Lubbock provides an (uncited) account of Bruce's character while the ship was docked in Melbourne. Knowing that most of the able seamen had only shipped from Calcutta to Melbourne, Bruce ordered them to immediately tar the rigging. The men considered that their duties had been fulfilled in getting the ship to Australia. They were not eager to carry out this most arduous of tasks, and that night they dumped a tar barrel overboard in a glaring act of defiance. But Bruce was not going to back down, concocting a watered-down form of tar for them to use and setting the men to work. They deliberately did a bad job, leaving the ship with an abject

appearance that the apprentices then had to make good. It was the final straw for Herbert Stoughton, an apprentice who had been with the ship from the outset. He caught a passenger steamship back home.

Fifteen more new men were signed up in Australia, including Able Seaman J. H. Hackley, who then deserted two days after signing up, taking his advance with him. The able seamen in Australia were expensive. Each of the eight who signed on were being paid £4-0-0 per month while those who had signed up in May 1880 were paid just £2-10-0 per month and the second mate only £5-0-0. It was a bone of contention that was never truly settled.

Cutty Sark left Sydney with a cargo of coal on 2 July 1881. The master and the first mate, W. H. Rutland, who had been signed up by Bruce in Calcutta, conspired to make life so unpleasant for the new, expensive recruits that they would be forced to desert. Lubbock suggests that 'poor little *Cutty Sark* became a real Hell afloat'. Their plan didn't work, however – the crew were wise to their motives and no one left. After six weeks of miserable graft at sea, the crew were granted a liberty day once they arrived in Shanghai. It was not so much an act of mercy from Bruce and Rutland as an obligation after so long at sea. It was a chance to let off steam. After all they had endured, a 'high old time' was had by all, according to apprentice Charles Sankey. Having frequented 'low dives' on shore, several of the men caught an infection – Asiatic cholera. A yellow flag was raised and *Cutty Sark* was placed in quarantine.

Three of the crew – J. Hall, a 28-year-old from Guernsey; Michael McCarthy, a 26-year-old from Ireland; and Bernard Sullivan, a 37-year-old from New York – died in a Shanghai hospital. All of the able seamen were also struck down with the illness and hospitalised. William Bruce was safely housed ashore. The rest remained on the ship in woeful isolation. Three weeks later, after an extensive fumigation, the quarantine was lifted and the much-weakened men returned. Eager to make up for lost time and to continue with their plan to rid themselves of the Australian crew, Bruce and Rutland put the men straight to work. The men refused. Bruce clapped three of them in irons and eagerly marched them to the authorities, keen to accuse the crew of mutiny and thereby rid himself of them. But the plan backfired. Bruce was reprimanded for his actions and ordered to allow the crew only to complete light duties for a further two weeks.

THE VOYAGE: PART 3 (OCTOBER 1881 – 10 APRIL 1882)

When the ship was finally ready to depart, she headed to Cebu in the Philippines to collect a cargo of jute. Undeterred by the admonishment he had already received, Bruce appeared keen to provoke more drama. Having been drinking heavily, he picked a fight with the remaining men who had boarded in Sydney. The situation escalated and Bruce managed to convince the consulate that William Blood, a 28-year-old German, was violent and dangerous. He was subsequently locked up and *Cutty Sark* departed with just two of the hands signed on in Sydney. Master Bruce, clearly not one for learning lessons, then sought a replacement for Blood. He paid an advance to a Cebuan, who eagerly deserted, money in pocket.

There was nothing to suggest that the apparent curse on this grimmest of voyages might now have been lifted. On 4 February 1882, 22-year-old Thomas Dunton was working aloft when heavy blocks fell on him, knocking him overboard. He could not be recovered. As he was one of the Sydney recruits, there was suspicion among the crew that this might well have been more than an accident. The scourge of blame and recrimination hung over the ship. The heavy drinking continued and chaos descended. A special stop was made in Anjer – a place at the centre of all of *Cutty Sark*'s recent woes – to collect more alcohol. Following a near collision, the crew, led by Second Mate George Rogers, virtually force-fed the master and mate copious amounts of booze to render them incapacitated so that they could then dispose of the remaining alcohol and regain some order and control.

But Bruce's incompetence was becoming ever more apparent. Less than a month out of Anjer, it was clear that the ship was short of supplies. Despite sighting St Helena, an island in the South Atlantic, Bruce made no attempt to stop, and by the end of February the crew had been placed on half rations. The situation grew critical and the men on *Cutty Sark* were forced to beg for provisions from passing ships.

On 10 April 1882, *Cutty Sark* finally drew into New York, her final stop on this most hellish of voyages. Master Bruce, in his typically bullish and headstrong manner, attempted to shift the blame for his own failures and refused the second mate, George Rogers, his discharge. The long-suffering Rogers, who had been considered incapable in comparison with Master

Wallace, but who had greatly redeemed himself by comparison with Bruce, complained to the consulate and the whole sorry business was revealed. As a result, Willis dismissed Bruce and transferred the entire crew of *Blackadder* to *Cutty Sark*.

AFTERMATH

In August 1882, two years after John Francis had been murdered by Sydney Smith, Smith – now known as John Anderson – was arrested in London. Sailing aboard the *Mary Ann Nottebohm*, he had most likely been spotted and reported by Edward Holford, who had been *Cutty Sark*'s carpenter during the fateful voyage. Smith – or Anderson – was tried at the Central Criminal Court. According to the account of the trial, Mr Justice Stephen 'expressed his opinion that the evidence was hardly sufficient to support a charge of wilful murder, although it was abundant to support the minor charge of manslaughter'. Smith was stripped of his Mate's Certificate and sentenced to seven years' penal servitude. When his sentence was complete, he approached Jock Willis, who secured him a junior position on a ship bound for Australia. Once there, he reapplied for his certificates and ended his career as master of the oil tanker *Navahoe*. He died in 1922.

NOTES AND OBSERVATIONS

Basil Lubbock is our main source of information for this voyage. His interviews with veterans of *Cutty Sark*'s service offer invaluable insight into their experiences. But Lubbock's lack of citations makes it very difficult to verify his accounts. There are undoubtedly a few holes in the plot.

Most troubling is Lubbock's use of racist language to describe John Francis, who was a black man. 'The Log of the "Cutty Sark"' was published in 1924. While the passage of time cannot excuse the use of racist epithets, it may explain it. Though shocking to us today, such language was acceptable in his time. What it does obscure, however, is whether a fair picture is painted of Francis or whether

his race had anything to do with his treatment. Two other black men joined *Cutty Sark* with Francis in Wales. No mention is ever made of them being singled out in any way. Further, sailors were well used to working with colleagues from all over the world, and the crew of *Cutty Sark* was certainly a racially diverse one. But Lubbock's account does suggest that Francis was impudent, somewhat above his station. He may well have been, but Lubbock's language leaves us with unanswered questions about the true nature of Smith and Francis – questions we will never be able to answer definitively.

DEATHS ON *CUTTY SARK*

Overall, *Cutty Sark* was a fortunate ship. A total of 15 men, six of whom were lost at sea, died in her 26 years as a British vessel. The impact of the loss of a crew member upon his comrades cannot be overstated. In April 1893, when the ship was heading for the English Channel, two men were washed off the bowsprit. John Clifton, a 21-year-old from Brighton, and John Doyle, a 30-year-old from Dublin, were swept into the sea, with scant opportunity to retrieve them. Master Woodget recorded:

At 2.30pm John Doyle and John Clifton, whilst making fast the outer jib, were washed from the boom and drowned ... I ordered the helm be put down and at once threw a life-buoy, but it was some distance to leeward of them. I saw Doyle sink and rise to the surface again, and then I could see him struggling under water. Clifton did not appear to me ... There was too much sea to lower a boat ... I wore ship and hovered about to see if I could see either of them but we could see neither and at 4pm I wore ship again ... Fancy, only a minute before they were on the boom laughing to see the sprays come over the bows and the others getting wet ... Oh, what a gloom it cast over the ship! Two young men gone to Eternity.

For George Pursey Phillips, who had served on *Cutty Sark* as an apprentice, the memory never dimmed. In his memoir *Two Million Miles on Salt Water*, written more than 40 years later, he wrote:

Two men, John Doyle and John Clifton, had been on the jibboom, making

fast the outer jib ... Then the boom went right down under the tearing waves – and came up empty ... We saw their heads in the wave-crest ... at the same time tearing a lifebuoy ... towards them. It did not reach them ... So we had to watch the last grim act of the tragedy, helpless, wordless, while two men's lives were taken by the merciless sea. Doyle ... could not swim and sank almost at once. John Clifton ... was a fine swimmer ... I saw him fighting doggedly to reach the ship ... He turned in the mountainous water, and I saw his teeth flash as he struggled ... He came up again and an eddy sent the lifebuoy just past his shoulder ... he made no effort to reach it, though his head turned towards it. The waves turned him slowly round two or three times and then avidly sucked him down ... We had been a laughing company until then.

Deaths in Service

Name and rank	Age at signing on	Origin	Date and *Cutty Sark* voyage number	Cause of death	Location
Robert Fisher, Able Seaman	*24*	*Jersey*	*21 July 1870; 1*	*Dysentery*	*On board*
William Hart, Able Seaman	*28*	*Suffolk*	*16 November 1874; 6*	*Drowned in an accident off the coast of Isle of Wight*	*At sea*
William Tiptaft, Master	*30*	*Middlesex*	*c.12 October 1878; 10*	*Died of illness*	*Shanghai*
W.H. Francis, Able Seaman	*35*	*Chicago*	*11 July 1880; 12*	*Killed in a brawl*	*On board*
James Smith Wallace, Master	*27/28*	*Aberdeen*	*4 September 1880; 12*	*Committed suicide by stepping overboard*	*At sea*
William McGregor, Able Seaman	*49*	*Glasgow*	*14 May 1881; 12*	*Knocked overboard and drowned*	*At sea*
J. Hall, Able Seaman	*28*	*Guernsey*	*7 September 1881; 12*	*Asiatic cholera*	*Shanghai*
Michael McCarthy, Able Seaman	*26*	*Waterford, Ireland*	*8 September 1881; 12*	*Asiatic cholera*	*Shanghai*
Bernard Sullivan, Able Seaman	*37*	*New York*	*9 September 1882; 12*	*Asiatic cholera*	*Shanghai*
Thomas Dunton, Able Seaman	*22*	*Hampshire*	*4 February 1882; 12*	*Drowned*	*At sea*
William Abram, Able Seaman	*31*	*Lancashire*	*5 November 1882; 13*	*Died of illness*	*At sea*
Joseph Murphy, Bos'un	*53*	*London*	*25 September 1886; 17*	*Unknown*	*Shanghai*
Sidney Cook, Able Seaman	*17/18*	*Unknown*	*31 October 1888; 19*	*Washed overboard*	*At sea*
John Clifton, Able Seaman	*21*	*Brighton*	*2 April 1893; 23*	*Washed off the bowsprit and drowned*	*At sea*
John Doyle, Able	*30*	*Dublin*	*2 April 1893; 23*	*Washed off the bowsprit and*	*At sea*

Seaman	*drowned*

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THE WOODGET YEARS, 1885–95

The events of 1885 were to define *Cutty Sark* for generations to come. Jock Willis's appointment of Richard Woodget as *Cutty Sark*'s seventh, and final, master was at the time a sensible choice; Woodget had proved himself capable of handling every task ever put before him at sea, and Willis undoubtedly trusted him to get the best out of his new command. To this very day, young children visiting *Cutty Sark* in Greenwich learn about the achievements of Woodget and his crew. If Willis had known that Woodget's appointment was about to usher in the most successful period of her career, he may well have taken him on sooner.

Although *Cutty Sark* had achieved much in her previous 16 years, all that was to pale into insignificance compared with the next ten years of her working life. Under Woodget's command, she was transformed from a failed tea clipper into the pre-eminent ship in the Australian wool trade. After the ignominious end to her days in the Chinese tea trade and the ensuing disappointment caused by five years of tramping for cargo, *Cutty Sark*'s performances in 1883 and 1884 under Frederick Moore had given Willis renewed hope and faith in the ship. Woodget was to prove that faith well justified.

NEW HORIZONS

The first voyage under Woodget's command was undoubtedly *Cutty Sark*'s

most successful to date – possibly not financially, but certainly in terms of reputation. Woodget managed to set previously unheard-of passage times on both legs of the journey; a mere 77 days was all it took on his first voyage as master for *Cutty Sark* to reach Sydney. After three months in port, Woodget supervised the loading of the wool cargo to ensure that the absolute maximum amount was stashed into her hold. On this voyage, despite not being overly familiar with the ship, Woodget was able to carry some 4 per cent more cargo than his predecessor.

On the return voyage from Sydney, *Cutty Sark* departed on 18 October 1885 and was, astonishingly, home before the new year. Woodget and crew arrived back in London on 30 December 1885, just 73 days after leaving Sydney. This unbeatable passage remains to this day the record for a sailing ship, and was met with disbelief at the time, most likely by Willis himself, who could surely never have dreamed of such swift passages.

Woodget had thus announced himself as a most capable master of *Cutty Sark*, someone who could get the absolute best out of the ship, her crew, and her cargo capacity. While Frederick Moore's command of *Cutty Sark* over the previous two years had been highly respectable, with his performance representing an enormous improvement over that of his predecessors, there was no doubt that under Woodget, *Cutty Sark* was starting to build the reputation Willis had always intended for her.

REPUTATION

It was not just a reputation for record-setting that Willis craved for *Cutty Sark*. He had commissioned the ship with the intention of her becoming the very best of all sailing ships, of her being known as the one ship above all others that every crew wanted to pass in open water. *Cutty Sark* was well known at the time, but no more so than her rivals; vessels such as *Taeping*, *Leander* and *Thermopylae* were equally as well known as Willis's clipper, if not more so. The record passage of 1885 saw *Cutty Sark* beat *Thermopylae*'s time by a convincing seven days; this left no doubt in anyone's mind that *Cutty Sark* was now the ship to beat.

In recognition of this feat, Willis presented the ship with a special token of his gratitude, commissioning a gilded weather vane in the shape of a 'cutty sark' that was installed atop the main mast. This gift was almost certainly

inspired by the golden cockerel weather vane sported by *Thermopylae*, although Willis could take satisfaction from the fact that *Thermopylae* was given her weather vane in recognition of her record-breaking maiden voyage to Melbourne, whereas *Cutty Sark*'s was both in recognition of the record voyage from Sydney to London and an award for beating *Thermopylae* so soundly.

The following year was to produce a performance that pleased Willis even more than the record-setting voyage of 1885. When *Cutty Sark* left London in February 1886, Willis tasked Woodget with securing a tea cargo from Shanghai, so impressed with Woodget's handling of the ship that he clearly hoped to set records on the tea route as well. However, Woodget spent a fruitless three and a half months in China, unable to secure a tea cargo; only two other sailing ships, *Leander* and Willis's own ship *Hallowe'en*, were able to do so, but *Cutty Sark* herself remained empty.

PASSING THE TIME

It was during this voyage that the more human side of *Cutty Sark*'s story surfaced. Woodget was an accomplished man, and had several unusual hobbies not normally associated with sea captains. While stopping at Anjer en route to Shanghai, he purchased two monkeys for the ship; these served essentially as pets, and entertained the crew by, among other tricks, stealing sugar from the ship's cook, James Robson. Woodget also kept, and bred on board, prize-winning collie dogs, which were not as popular as the monkeys. According to the apprentice Clarence Ray in his letters sent home, the dogs had a propensity to 'go for' the crew if they entered the master's cabin.

Captain Woodget was no average master, and rather than spend his time drinking heavily as some of his predecessors had done, he put his leisure time to more exciting use. He was a busy man on this voyage, as he also purchased a bicycle when in Shanghai and taught himself to ride on the 'tween deck during those weeks in port when no cargo was stored. He also taught himself to roller-skate, if crew accounts can be believed.

EXPOSURE TO PHOTOGRAPHY

Another of Woodget's hobbies, one that was to become very useful to future generations, was his love of photography, acquired from the apprentice John

Mayall, who signed aboard in 1886 aged 14 and who himself was the grandson of J. J. E. Mayall, the famous portrait photographer J. J. E. Mayall was renowned for his portraits of Queen Victoria, and had exhibited at the Great Exhibition of 1851; his grandson John showed Woodget everything he knew, including how to develop his prints on board.

Thanks to Mayall, we have a fascinating record of life on board *Cutty Sark*, through the eyes of her master, in the form of still-surviving photographic images of the crew, of their guests on board while in Sydney, and of the ship both in port and at sea. One of the most striking images taken by Woodget is of *Cutty Sark* passing an iceberg, itself taller than *Cutty Sark*'s main mast.

One photograph, taken by Woodget himself, shows the cook James Robson and two other crew members near the main hatch on the main deck; one of the monkeys appears above the three companions, sitting atop the aft deckhouse. Unfortunately, what became of the monkeys, along with Woodget's collies, is unknown, but their presence on board, and Woodget's photography of them, serves to humanise life on board a Victorian trading ship. While *Cutty Sark* was to all intents and purposes a business venture, the fact that pets and hobbies were allowed on board enabled the crew to 'normalise' their working environment to some extent, and it shows how important having familiar home comforts was to them.

James Robson and two others on board
National Maritime Museum, London (H5208)

BUSINESS AS USUAL

Cutting Willis's losses on that failed tea run, Woodget made once again for Sydney, and was there able to pick up a full wool cargo before returning to London in a more sedate 83 days. Despite such a slow passage by *Cutty Sark*'s standards, this remained one of the fastest voyages of the season. Even when sailing slowly, *Cutty Sark* was one of the fastest ships on the open seas.

After unloading her cargo and taking on her outbound cargo, *Cutty Sark* returned to Newcastle, New South Wales, after a three-year absence that had not gone unnoticed. The *Newcastle Morning Herald and Miners' Advocate* carried a lengthy piece in the 19 November 1887 edition that read:

> *The ship Cutty Sark … arrived in port at 1 o'clock yesterday morning from London … the Cutty Sark has justly earned the reputation of being one of the fastest sailing clippers afloat, and she and the Thermopylae certainly take precedence of all others so far as quick passages are concerned.*

QUICK TURNAROUND

Comparing Sydney and Newcastle for time spent in port over the years, *Cutty Sark* actually made better time when trading from Newcastle due to the shortened stop in port. Over four voyages to Newcastle, *Cutty Sark* averaged 69 days in port, compared with 110 days spent in port on average over six voyages to Sydney. On the 1887 voyage coming out of Newcastle, *Cutty Sark* sailed back to London in just 73 days; this meant that the round trip from London, including loading and unloading cargo in Newcastle, was just 206 days in total. This was the quickest turnaround of any voyage out of London in *Cutty Sark*'s career, the next fastest being the 246 days taken for the same voyage in 1892. Had the *Newcastle Morning Herald and Miners' Advocate* known that *Cutty Sark* was to beat *Thermopylae* back to London by a full eight days on this voyage, it may well have given *Cutty Sark* sole billing as the fastest clipper afloat.

While most years under Woodget's command saw a noteworthy achievement or event, 1888 was to prove fairly mundane. *Cutty Sark* reached Sydney in 80 days, her second-fastest voyage to Sydney, and came home to London in her slowest time to date, taking some 85 days. But given all he had achieved so far, Willis was not about to remove Woodget from his command, particularly as he was continuing to carry far more cargo than any of his predecessors. The 1888 voyage was more noteworthy for the tragic loss early in the voyage of the 17-year-old apprentice Sidney Cook, who was washed overboard and lost just four days after *Cutty Sark* left Sydney.

SAIL RULES THE WAVES

Under Woodget's command, another astonishing moment in *Cutty Sark*'s career occurred during the 1889 voyage. Having left London on 4 May, *Cutty Sark* was a matter of hours away from reaching port in Sydney when she overhauled the steamship *Britannia* on the open water. As the evening light began to fade, *Britannia*'s second officer called his captain to the deck to witness something most rare: a sailing ship was gaining on their own steamship, and within a matter of minutes *Cutty Sark* had passed *Britannia* and sailed off into the night. As the logbook of *Britannia* noted:

Sailing ship overhauled and passed us!

When *Britannia* arrived in Sydney the next day, the officers discovered that the speedy sailing ship had been *Cutty Sark*; Captain Woodget had somehow found a breeze, or light wind, and had used that to overtake a steamship. *Britannia* herself had been sailing at around 14.5 to 16 knots (17/18mph), and so Woodget had pushed *Cutty Sark* to her absolute maximum speed in order to show *Britannia* that not all sailing ships were aged and consigned to minor duties. This lesser-known event in *Cutty Sark*'s history is a very important part of Woodget's legacy as master; to overtake a steamship of *Britannia*'s ilk in a 20-year-old sailing ship should not have been possible. It was an extraordinary show of seamanship from *Cutty Sark*'s master and crew.

The following year's voyage was comparatively dull after the exciting events of 1889. After returning from Sydney the previous year in just 76 days, *Cutty Sark* returned to Sydney in 1890 in 80 days and was forced to spend more than four months in port. After this delay, Woodget brought the ship home in 93 days, her slowest return from Australia yet.

FACING THE WORST

As so often appeared to be the case throughout *Cutty Sark*'s career, one quiet year was followed by one to remember. In 1891, perhaps more than at any other time in her career, the skill of *Cutty Sark*'s master and crew was most evident.

Cutty Sark left London on 23 April 1891, and was making excellent time on her way to Sydney for a fourth consecutive year. Having passed the Cape of Good Hope a few weeks earlier, she was at 45°24'S 87°34'E when she came up against a freak wave that threatened the entire crew. Woodget's account in his logbook conveys the horror of the incident:

> *An immense sea rolled up right aft. When I looked at it, towering up so steep, in fact, like a cliff, it looked as if it was about to drop over our stern and completely bury the ship; but her stern rose without much water being pooped, but as it rolled along to the main rigging it dropped on board both sides with tremendous force; smashing in the door of the fore and after houses, it rushed aft covering the poop. The water was up to my waist whilst I was hanging on the rail; you could see nothing but the boats and the masts – the whole ship was completely submerged, a great quantity of water rushing down into the cabin, stern rooms, etc…*

Rarely does the sea conjure such violent and frightening images as this. The crew faced a virtual wall of water from astern, which could easily have broken the ship and taken the lives of all on board. Whether it is a testament to the quality of the ship's construction, to the skill of the crew, or to the leadership of Woodget himself, one thing is for certain: *Cutty Sark* had a most fortunate escape, surviving the wave without sustaining heavy damage or any loss of life. Woodget's account continues:

During the thirty-one years that I have been sailing the seas, I never saw anything approaching it in size and steepness.

For an experienced seaman such as Woodget to make such a statement shows the scale of the wave and the inherent danger faced by the crew. The apprentices' cabin was filled right up to the top bunk with water, while the able seamen's cabin saw the lower bunks filled, and the ensuing work to put the ship to rights would have exhausted the crew. It is to Woodget's and the crew's enormous credit that despite suffering through this incident, *Cutty Sark* arrived in Sydney in just 81 days, recording more than 300 miles on the day the wave struck. This incident shows that *Cutty Sark* was capable of withstanding and thriving in everything that the sea could throw at her, something the majority of the crew could not have known at the time.

DIFFICULTY FINDING CARGO

Sadly, as with her last few years in the tea trade, *Cutty Sark* was beginning to find that wool cargoes were becoming scarcer. After arriving in Newcastle, NSW, in early November 1892 and being placed in quarantine due to a cholera outbreak back in Britain, Woodget delivered his cargo of general goods and swiftly took the ship up to Sydney for her next wool cargo. But by the time she arrived there were no wool cargoes left for London; this forced Woodget to take wool not to London, but to Antwerp. He secured the highest number of wool bales to date in her hold, and made the round trip from London to Newcastle, to Sydney and then to Antwerp in 251 days, a respectable achievement considering the disappointment of missing out on the London cargoes.

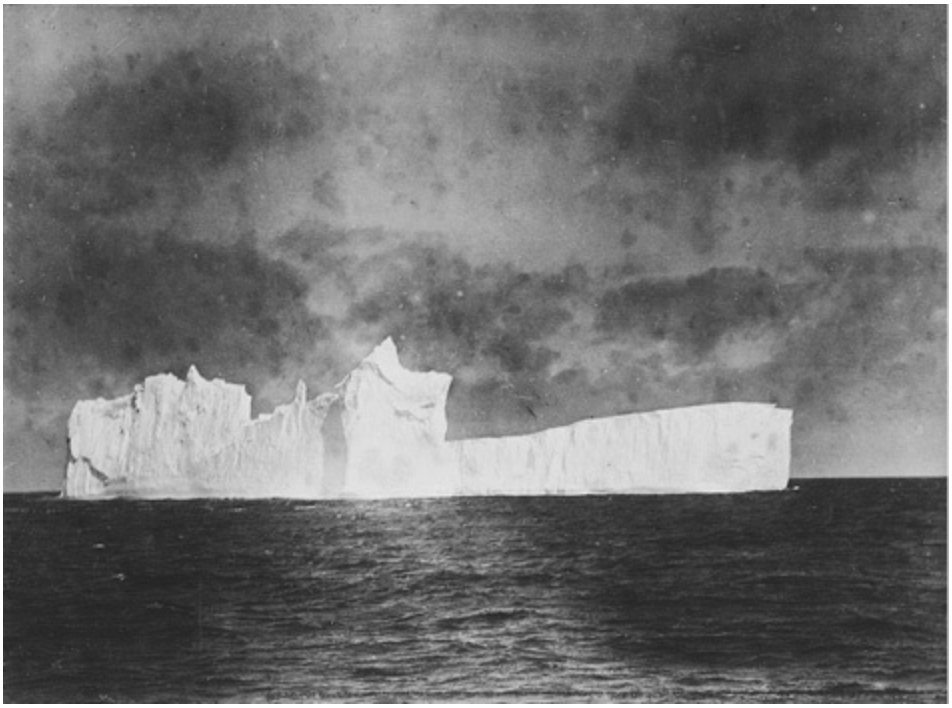
BRAVING THE ICE

It was during this voyage that Woodget left a remarkable note in the ship's logbook. Dated 8 February 1893, and with *Cutty Sark* near the Falkland Islands at a latitude of 50°09'S and a longitude of 46°41'W, Woodget describes in great detail the icy conditions *Cutty Sark* was making her way through:

At 1pm the top of an iceberg was seen which one could hardly believe was ice … it was up at an angle of 45 degree. We were only about 1,000 feet off, so it would be 1,000 feet high…

A few minutes later another was underneath the bows; we only cleared it by a few feet … found another on the other side quite close … then another came in sight of the bow.

When we had cleared the big one, I saw its north end and took bearings. After sailing eight miles I took other bearings and found that the east side was 19 miles long.



Icebergs, taken by Captain Richard Woodget
National Maritime Museum, London (A8446)

That *Cutty Sark* was able to make such good time when sailing through such treacherous waters is, again, testament to the skill of both Woodget and his

crew. It is also a sobering tale, as most of the crew would never have experienced such conditions and it would undoubtedly have been a frightening experience for some of them. How Woodget was able to keep *Cutty Sark*'s performance as strong as it was while also maintaining good morale on board we are unable to guess; his popularity among the crew appears to have been maintained on all his voyages, which allows us to appreciate how well he cared for his men.

Rather than return to London from Antwerp for a cargo, Woodget secured a cargo in Antwerp of general goods that included glassware, rifles, candles, beer and nails, bound for Sydney. As with the previous year, *Cutty Sark* arrived too late for a London-bound wool cargo; instead, the ship took a cargo of more than 5,000 wool bales bound for Hull and sailed for 94 days to reach her destination, arriving in March 1894. The cargo weighed more than 2 million lbs, and had a value of more than £100,000 (equivalent to more than £11.8 million now). In financial terms, the freight rate amounted to around £4,000 (£472,000 now), and after deductions for costs, Willis was still making a sizeable profit from *Cutty Sark* even as late as 1894.

COMING TO THE END

The next voyage was to be *Cutty Sark*'s last under the red ensign that marked her as a British registered vessel. Woodget took the ship back down to London, the first time in nearly two years she had been seen in her home port. She had made the passage to Brisbane in just 79 days, still as fast as any sailing ship, and took a relatively fair 84 days to return to London. During this voyage *Cutty Sark* passed the sailing ship *Hawksdale*, which in and of itself is worthy of no particular mention save that one of the apprentices on board, Wilfred Dowman, was one day, in his retirement in Cornwall, to become the owner of *Cutty Sark*. As Dowman watched *Cutty Sark* speed past *Hawksdale*, the sight became etched in his memory, and when he espied her under Portuguese flag in poor condition in the early 1920s, he pursued her back to Portugal to purchase her and bring her back home to Britain. Had it not been for this fleeting moment on her last voyage as a British ship, *Cutty Sark* would not be with us today, as Dowman's future restoration of the ship eventually led to her moving to her current and final resting place, in a dry dock in Greenwich.

FAMILY AFFAIR

Amid all his accomplishments, it would be easy to forget that Woodget was also a steadfast family man. During his time on board *Cutty Sark*, three of his four sons served as members of his crew, each joining their father at the age of 15 for a life at sea. While foul weather and hard work may have led to disagreements between them, there could not have been a better master from whom to learn. Richard Woodget was the eldest son, joining as an apprentice and serving in that capacity for four years between 1888 and 1892; he then became second mate from 1892 to 1893, before moving up to first mate from 1894 to 1895. He was described by Lubbock as being a 'smart lad', and Woodget occasionally left him to supervise the stevedores loading wool when he himself was absent. Harold and Albert Woodget also joined the crew as apprentices in future years, Harold from 1890 to 1893, and Albert from 1894 to 1895.

It is fitting that Woodget was joined by two of his sons for his final voyage as, unbeknown to the ship's great master, Jock Willis's sale of the ship was nearing completion as *Cutty Sark* returned home. Woodget sailed into London with more than 5,300 bales of wool in the hold, the biggest cargo *Cutty Sark* had ever carried, but was then informed that this tenth voyage under his command would be his last. Willis subsequently gave Woodget command of *Coldinghame*, one of his last remaining vessels, and one final, successful, wool run to and from Brisbane was conducted. This one voyage as master of *Coldinghame* was to be Woodget's last hurrah, as he then chose to retire and returned home to Norfolk after a career of more than 35 years at sea.

Among Woodget's many achievements as master of *Cutty Sark*, few would have pleased Willis more than his ability to secure the maximum possible cargo that would fit in the ship's hold. As mentioned earlier, on his very first voyage as master, Woodget was able to secure an additional 4 per cent of cargo compared with the amount secured by his predecessor; by the time *Cutty Sark* sailed from Newcastle, NSW, in 1892, Woodget had increased capacity by a full 10 per cent more. The crew received the same pay regardless of cargo carried, so this additional cargo was pure profit for Willis – hence Woodget was to prove as valuable financially to Willis as he was to the reputation of Willis's fleet.

FINDING A NEW OWNER

Jock Willis's motives for selling *Cutty Sark* have never been entirely clear; with no heir to pass the family business on to, he had begun the process of selling his fleet sometime earlier, and by the time he sold *Cutty Sark*, he owned just four ships. As the voyage of 1894 shows, *Cutty Sark* was still making a good profit for Willis, but with age now a factor, it is thought that he simply wanted to remove himself from the business he had spent his entire life heavily involved in. That may explain why he was content with his eventual sale of *Cutty Sark* at a fee of just £1,250, which was considerably below her market worth.

Cutty Sark's lasting fame and reputation as the fastest ship afloat is mainly due to the Woodget years. These ten highly successful years gave her a real purpose, and allowed her to set the records that Willis had always intended her to set – records that remain today. Woodget also vanquished *Cutty Sark*'s old rival *Thermopylae*; he overcame the most violent conditions ever experienced by the ship; and he showed the world that the age of sail was not dead when he overtook the steamship *Britannia*. Woodget was able to get the very best out of *Cutty Sark* due to his expert knowledge of sailing; the crew never performed better than under his command. Even on her final voyage under Willis's ownership, *Cutty Sark* was making him fair profits, and had it not been for the inexorable decline in available wool cargoes, Woodget could well have taken *Cutty Sark* into the next century.

As *Cutty Sark* sits in dry dock in Greenwich today, she stands proud as an icon of the golden age of sail, as well as of the bygone age of the tea and wool trades between Britain and the world. Richard Woodget was the finest of all *Cutty Sark*'s masters and is responsible, perhaps even more than Jock Willis himself, for the reputation that *Cutty Sark* enjoys more than 120 years since she was sold into Portuguese ownership. His important place in *Cutty Sark*'s story must never be forgotten.

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LIFE ON BOARD

Today, it is difficult for us to imagine what life on board a working sailing ship would have been like. Associations with a ‘bygone’ age may also prevent us from appreciating the ordered and complex machine *Cutty Sark* would have been. The average size crew for *Cutty Sark* in her tea years was 28 men. After the ship’s rig was reduced in 1880, her average crew was just 22. To man 11 miles of rigging, a maximum of 32 sails and a full sail area of 32,000 square feet in the face of merciless and relentless weather conditions required grit, determination and organisation.

CREW RESPONSIBILITIES

The ship’s captain, the master of the ship, was a qualified officer with ultimate responsibility over the vessel. Each master was appointed by the owner, Jock Willis, and assumed charge over navigation, managing the crew and sourcing, loading and unloading the cargo.

Seven men served as masters of *Cutty Sark* in her 26 years as a British ship. They came from varied backgrounds and brought different strengths to their service. But each had progressed through the ranks of the merchant marine to become master mariners. Examinations and a system of certification were introduced by the Board of Trade in 1845 but did not become compulsory until 1854. For a fee, a mariner could make an application to be examined to attain, first, the position of second mate, then progressing on to first mate and

finally master. In the earlier years of certification, those who had proof of their experience as masters were issued with a Certificate of Service and were excused from sitting exams. Certificates of Competency were issued to those who had passed their examinations, including all of the masters of *Cutty Sark*.

The majority of *Cutty Sark*'s masters appear to have been ambitious and talented young men. On average, it took them just three years to progress from second mate to master, with four of her masters achieving that position before the age of 30.

***Cutty Sark*'s Masters**

Master	Background	Voyages
George Moodie	*Born in 1831 in Fife. George Moodie oversaw the building of* Cutty Sark. *He was 39 when he took command of the ship for her maiden voyage. His wife christened the ship.*	*1–3 (1870–72)*
Francis W. Moore	*Born in 1822 in Yorkshire. He was 50 when he took over from Master Moodie. He served on* Cutty Sark *for one voyage.*	*4 (1872)*
William E. Tiptaft	*Born in 1843 in East London. He was 30 when he took command of* Cutty Sark *and served for six voyages. He fell ill when the ship reached Shanghai and died shortly afterwards in October 1878.*	*5–10 (1873–78)*
James Smith Wallace	*Born in 1853 in Aberdeen. He was 25 and serving as Tiptaft's first mate when he took command of the ship. Master Wallace committed suicide in September 1880 after the ill-fated 'Hell-Ship Voyage'.*	*10–12 (1878–80)*
William Bruce	*Born in 1838 in Aberdeen. Bruce was signed on to command* Cutty Sark *at Singapore, following Wallace's death. He is generally thought to have been incompetent and was subsequently suspended.*	*12 (1880–82)*
Frederick Moore	*Born in 1839. He was 43 when he was appointed master.*	*13–15 (1882–85)*
Richard Woodget	*Born in 1845 in Norfolk. Woodget was 40 when appointed as master. He is generally acknowledged as* Cutty Sark*'s most successful and famous master.*	*16–25 (1885–95)*

First and second mates provided support to the master. Both would be qualified to stand watches, take command of the ship when the master was not on deck and supervise the crew. Not all men signed on at their most recently attained rank. James Smith Wallace, for instance, had achieved his Master's Certificate in October 1877, but the next month he signed on to *Cutty Sark* as first mate. Following the death of Master Tiptaft, Wallace was the most qualified man on board and was duly promoted.

Cutty Sark rarely employed a third mate. Of the seven to serve, five were apprentices, nearing the completion of their four-year indenture. Similarly, a sailmaker served on 12 of *Cutty Sark*'s 25 voyages and a bos'un on only

seven. The former was responsible for mending the sails and all canvas work, while the latter bore responsibility for the general condition of the ship. It seems, therefore, that the crew of *Cutty Sark* were expected to 'muck in' and compensate for the absence of more suitably qualified men.

Of the petty officers, the carpenter and cook were roles of vital importance and positions that *Cutty Sark* always filled. The carpenter was responsible for the maintenance of the ship's hull, rudder, masts and yards and for keeping the decks watertight. The cook produced all of the crew's meals. Both were located in the forward deckhouse – the carpenter in his narrow workshop and the cook in his galley-kitchen.

Able seamen made up the majority of the crew on *Cutty Sark.* They were men who had several years of experience and a certificate to prove their competence in steering, working aloft in the rigging and handling sails. On average, 13 able seamen served per voyage. They ranged in age from 18 to 54 and came from all over the world.

Ordinary seamen were men with little or no experience of life at sea. They would complete the more menial tasks on board such as cleaning or painting. A couple of ordinary seamen served per voyage in *Cutty Sark*'s tea trade years. After that, hardly any served again. Instead, the number of apprentices taken on rose dramatically. In her tea years, a maximum of four apprentices served on every voyage. In her wool years, between five and nine served. As we have seen, both John Willis and Richard Woodget were shrewd operators. Given that apprentices were not paid for their service, it seems more than coincidental that the number of paid crew should drop while the number of unpaid apprentices rose. It certainly appears from the accounts of apprentices who served on *Cutty Sark* that rather than 'learning the ropes' they were often given the more menial tasks that others would not do.

A steward was employed for the majority of *Cutty Sark*'s voyages and was responsible for looking after the officers, serving their meals and maintaining their quarters at the stern of the ship in what was known as the Liverpool House. Often they would also help on deck, controlling the ropes of the sails and filling in where others were not available. Three 'boys' also served on the ship, gaining experience and being given free passage and a minimal wage before being discharged in the port of destination.

Captain Woodget, crew and friends on board, 1887
National Maritime Museum, London (A5473)

APPRENTICES

The Merchant Shipping Act of 1823 deemed that all vessels over 80 tons were obliged to carry at least one apprentice. In *Cutty Sark*'s day, apprenticeships in a vast array of occupations were a means of securing a trade for a young person. For many, there was little choice in what this trade may be. Apprentices in the merchant marine signed a four-year indenture (or contract) with a particular line, shipowner or master. Premiums for this service were fixed at what an individual thought he could persuade a parent or sponsor to pay. It could range from £20 to £100 for the four-year period. Apprentices agreed to serve 'dutifully' for the duration and in return they would be cared for and, in theory, gain experience that could set them on course for a career in the merchant marine.

The Marine Society was the world's first charity dedicated to seafarers. It was founded to prepare poor or destitute boys for a life at sea. The boys were

provided with clothing and received tuition on board the training vessels such as HMS *Warspite* (1862–76) on the Thames while waiting for a shipowner or master to apply for them to undertake an indenture. One Marine Society apprentice served under Jock Willis on *The Tweed* and another on the *Hallowe'en*. No records survive as to why he made that decision or decided not to take on any more for *Cutty Sark*, but perhaps we can infer that the experience was not a positive one and put paid to Willis's charitable instincts.

PAY

Crew Lists and Agreements exist for all of *Cutty Sark*'s voyages. These state crew names, origins, their last ship of service, their ranks, their pay and the amount of food they should expect to receive on a daily basis. The list had to be signed or initialled by each man joining. It is estimated that 82 men (or 12 per cent) of the total to serve on *Cutty Sark* were unable to sign their own name. What the lists do not record, however, is how much each master earned. It seems highly probable that as this was a document that all men were expected to view (and the vast majority would be able to read), the wage of the master was deemed too sensitive to be readily available. Basil Lubbock suggests that Master Frederick Moore (1882–85) was paid £200 per year, but his source for this information is uncited. The average adult male wage in the UK in the 1880s and 1890s was £56 per annum. If we take Lubbock's suggestion as fact, it would seem that the role of master mariner was an economically comfortable one. But what of the rest of the crew? The wages paid to ordinary seamen, able seamen, a petty officer (in the form of the ship's cook) and the first mate are given in the table 'Wages Paid by Rank'.

Wages Paid by Rank

Voyage number (year it commenced)	Ordinary seaman (OB)/third mate pay	Able seaman pay	Cook pay	First mate pay
1 (1870)	*£2-0-0 per month*	*£2-10-0 per month*	*£3-10-0 per month*	*£8-0-0 per month*
5 (1873)	*£2-15-0 per month*	*£3-5-0 per month*	*£4-0-0 per month*	*£8-0-0 per month*
10 (1877)	*£2-10-0 per month*	*£3-5-0 per month*	*£4-5-0 per month*	*£8-0-0 per month*
15 (1884)	*£2-0-0 per month*	*£3-0-0 per month*	*£4-0-0 per month*	*£7-10-0 per month*
20 (1889)	*No OBs served*	*£3-0-0 per month*	*£4-10-0 per month*	*£7-0-0 per month*
25 (1894)	*No OBs served. Third mate was paid £0-1-0 per month*	*£2-15-0 per month*	*£4-10-0 per month*	*£5-0-0 per month*

On average, *Cutty Sark* was at sea for more than ten months at a time. On this basis, an able seaman in the 1880s would have earned £30 for one voyage. Likewise, an ordinary seaman would have earned £20, the cook £40 and the first mate £71 for the same period. The better-paid men on board often allotted some of the wages, presumably to dependents at home. Very few allotments were made by the lesser-paid men. An able seaman was a skilled worker, comparable, perhaps, to a miner. It is estimated that a miner, in the same period, would have earned £4-16-0 to an able seaman's £3-0-0. However, the latter would have been away for many months at a time, with scant opportunity to spend his wage. Furthermore, he did not have to worry about board for his time at sea. Perhaps, also, the prospect of seeing some of the world served as a useful lure, attracting some men away from better-paid occupations.

JOINING A SHIP

A man joined a ship by, first of all, combing the docks and identifying his preferred vessel, and then going along to see the master or first mate. He might already be familiar to the officers, or he could present his Certificate of Discharge to account for his credentials. This certificate served as a reference. It listed the last voyage a seaman undertook, on which ship, and his rank; at times, it would also provide a character reference. If the officer was happy for the man to join, he would instruct him to be at the local Shipping Office to sign the Agreement and Account of Crew, also known simply as the Crew List. If a master was particularly fortunate and there were more men in dock than ships, he could place an advert – most likely at the bottom of the ship's gangway – and then take his pick from those who had expressed an interest. Often, however, this was not the case and a master had to make the best of the crew he had. On a number of occasions, men were demoted, either due to an instance of bad behaviour or because their skills did not match their claims. On *Cutty Sark*'s maiden voyage, Charles Johnson signed on as bos'un. He was almost immediately re-rated as an able seaman on the grounds that he did not understand the job.

Others appear to have chanced their arm. On *Cutty Sark*'s third voyage, 19-year-old Robert Williams from Liverpool attempted to join the crew at Gravesend. According to Moodie's log, 'He says that his clothes are on board

but that he has no discharge to show what capacity he served in his last ship.' Master Moodie decided to give him the benefit of the doubt. It was a decision he soon regretted. Two months later, he wrote: 'I find that Robert Williams who presented himself to be an AB [able seaman] is quite incapable of filling that station.' Williams was demoted to ordinary seaman, went missing for four days once they had arrived in Shanghai and was discharged once they returned to London.

The apprentices, like the rest of the crew on *Cutty Sark*, were from varied backgrounds and found their way to an indenture by differing means. If personal recommendations could not be relied upon, parents or masters could place an advert seeking an Agreement. Alexander Moodie, son of *Cutty Sark*'s first master, was the first apprentice to serve on board the ship. Three of Richard Woodget's sons (Richard John, Harold and Albert Sydney) also served as apprentices. For others, a life at sea symbolised freedom and adventure. For John Lester Vivian Millett, who joined *Cutty Sark* in the third year of his indenture at the age of 19, a life at sea represented freedom and adventure. His father had died when he was just six, leaving his mother with four children to care for. Though enrolled at a naval school at the age of 15, Millett nagged his mother to allow him to leave school and go to sea. His persistence paid off. A chance meeting between his mother and the shipowner Richard Ellis secured Millett an apprenticeship for an unspecified amount, and his dream was realised. Millett would go on to achieve his Master's Certificate at the age of 28 and enjoyed a life at sea, publishing *Yarns of an Old Shellback* in 1925.

Not all apprenticeships guaranteed a career in the merchant service. Clarence Ray was 16 when he joined *Cutty Sark* in 1894. Born in North London, Ray and his family had moved to Hastings when he was small. Like Millett, his father, who had been a merchant, had died. Clarence's mother secured a clerk's position for her eldest son and an indenture for Clarence. It is unclear how much Mrs Ray paid, but he completed his indenture and achieved his Second Mate's Certificate just five years later. However, that's as far as his career at sea took him. By the time of the 1911 census, he was married with three children and working as a farmer not far from Hastings.

A DAY IN THE LIFE

Unfortunately, few contemporary accounts of life on board *Cutty Sark* survive. However, logbooks, Crew Lists, letters and memoirs combine to help us piece together a typical ‘day in the life’, if there could be such a thing. On the ship’s final voyage, the letters of Clarence Ray, the apprentice, sent to his mother between June and December 1894, paint a fascinating and invaluable picture of all aspects of his experience, as depicted in the following sections.

WATCH SYSTEM

We start work at 5.30 in the morning but that is every other morning of course because the other watch will be on deck from 4 to 8 the next morning, the dog watches from 4 to 6 and 6 till 8 at night, are so that we should not get the same watch on deck at the same time, we knock off work at 4 one day and 6 the next in our watch on deck at night we have to keep time and ring bells.

The crew were split into a starboard and a port watch. If ‘all hands’ were called on deck, they would take their positions on the relevant sides of the ship. The day and night was split into five main watches of four hours each and two shorter ‘dog watches’ of two hours. The dog watches ensured that the sailors changed which watch they stood from day to day. The ship’s bell, at the anchor deck, marked the passing of time and the start of a new watch.

ACCOMMODATION

We have a jolly lot of fellows in the ‘house’, there are six of us altogether, we are divided into two watches Wilcox, Tyrrer and Nibo (the scipper’s son) are in the Port and Webb Shuttleworth & I are in Starboard Watch.

After 1872, there were two wood-panelled deckhouses on the main deck as accommodation for the crew. The fore deckhouse – for the ordinary and able seamen – had 12 bunks. The apprentices and petty officers, of the aft deckhouse, were rewarded for their superiority of rank with ten bunks of a slightly larger size. According to the original profile and plan of John Rennie (draughtsman of *Cutty Sark*), a partition would have separated the apprentices from the petty officers so that the cook and carpenter had their own space. This may explain why they are not mentioned in Ray’s account, though, of

course, it could also be down to 16-year-old Ray focusing on his contemporaries rather than his superiors. ‘Nibo (the scipper’s son) [*sic*]’ was Albert Sydney Woodget, youngest son of Master Richard Woodget. Like his brothers and Ray, Albert Sydney had begun his indenture aboard *Cutty Sark.*

Ray goes on to say: ‘Wilcox and Webb have served their time in the *Sark* but are coming this voyage to get their 2nd mates certificate.’ As third mate, Wilcox had made the normal progression from apprentice. Indeed, Wilcox received his discharge from the voyage on 26 March 1895 and received his Second Mate’s Certificate less than one month later.

DAILY TASKS

Our first job at 5.30 in the morning is to wash the pigs and closets out. I always heard that pigs were unclean animals but now I know it for a positive fact.

Cutty Sark had a pigpen beneath the anchor deck and a chicken coop beneath the poop deck. Both were accounted for in the ship’s specification: ‘Four hen coops of Teak 8ft long. Pig houses covered with teak … placed where required.’ They were intended to supplement the diet of the crew, but washing the pigs was clearly an unpopular duty.

I chip, repair, paint and generally do up! ... I have to do my share of work on deck and aloft and a jolly lot more too ... which is generally overhauling and stopping buntlines, clew lines and leech lines and making the stay sails fast which is the worst of all especially if she is rolling at all.

The two main watches of the day were used to chip, repair and paint. Sail repair work and cordage were also key responsibilities. Not only was it essential for the crew to ensure that their vessel was always prepared for whatever the weather could throw at them, keeping on top of the maintenance also helped to ensure that a ship would retain its classification when surveyed.

Ah it is a hard life but you need not think I do not like it for I am enjoying myself very much … Last week I had to go to the wheel and learn to steer.

It is thought that little maintenance work was likely to have taken place during the dog watches. Instead, this time was used for training. Apprentices

were providing their service for free in exchange for ‘learning the ropes’. Lessons in steering and navigation would be invaluable for their future career.

DISCIPLINE AND PUNISHMENT

If we go to sleep in our watch on deck they make us ride the grey mare that is sit up on the upper topsail yard for the rest of the watch.

Master Woodget is also said to have dropped a nest of baby rats onto the face of an apprentice who had overslept. Discipline over a ship was unique to the man in charge. The risk of punishment was essential to ensure duties were fulfilled. But a draconian approach, such as that employed by Master William Bruce on the ‘Hell-Ship Voyage’, ran the risk of alienating a crew. Of course, a particularly effective method of punishment was to withhold pay. The Board of Trade provided guidelines as to the amount of pay that should be denied, depending upon the severity of the charge.

THE QUIRKS OF MASTER RICHARD WOODGET

The old man has got 3 dogs, scotch collies, and when we go down in the cabin to see the time they go for us which makes it rather thick.

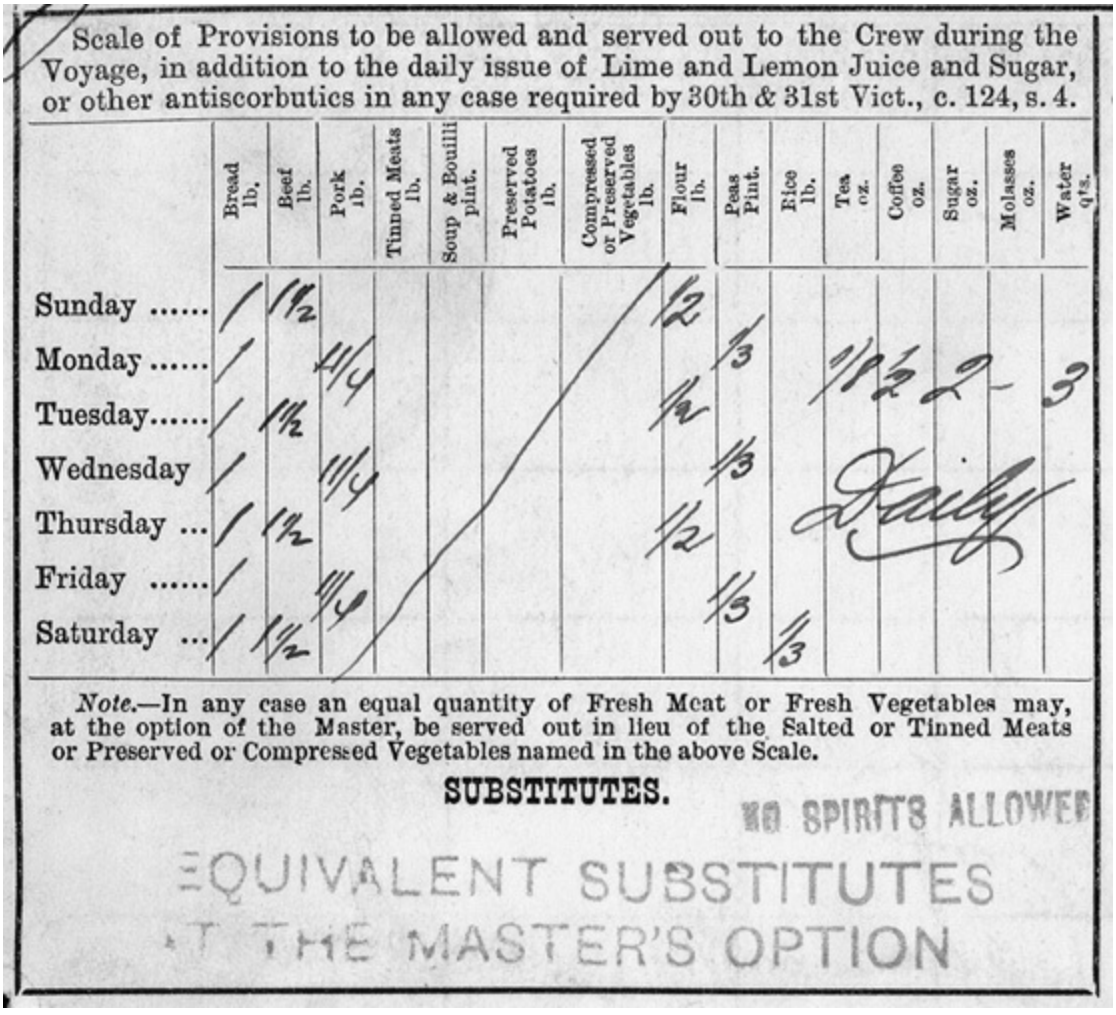
As we have seen, Richard Woodget was a remarkable character. It is perhaps a mark of the esteem with which Woodget was regarded by his crew that in one of his photographs of *Cutty Sark* he had been rowed out on the captain’s gig by an apprentice to set up his extensive equipment in order to take a port-side photograph of the famous ship, under sail. This would have meant leaving his crew to their own devices, something many a master would not have been willing to risk. *Cutty Sark*’s specification provided that a ‘time-piece’ be hung in the saloon of the Liverpool House. It was perhaps the fact that these animals were also kept in the salubrious settings of the saloon that proved unpopular, as, according to Ray, they went for any men who came in to check the time.

FOOD

We get coffee at 5 o’clock every other morning coffee for breakfast and

tea for tea. Monday, Wednesday, Friday pea soup and pork; Tuesday and Thursday Salt Tram Horse and bread; Saturday Junk and Spuds; Sunday Leu Pie. Sugar and butter we get 14 ozs every week. We get a pannikin of lime juice every day at 12 o'clock. Leu pie is my favourite dinner it is cooked altogether in a great kid, fresh meat and spuds all in a soup like, underneath and dough on top. Oh Lor, I could eat 3 whacks of it now, of course we get any amount of dog biscuit.

What food the crew could expect to eat had been set out in the Agreement & Account of Crew. Each member was expected to sign or mark the Crew List in acknowledgement.



Scale of Provisions to be allowed and served out to the Crew during the Voyage, in addition to the daily issue of Lime and Lemon Juice and Sugar, or other antiscorbutics in any case required by 30th & 31st Vict., c. 124, s. 4.

	Bread lb.	Beef lb.	Pork lb.	Tinned Meats lb.	Soup & Bouilli pint.	Preserved Potatoes lb.	Compressed or Preserved Vegetables lb.	Flour lb.	Peas Pint.	Rice lb.	Tea oz.	Coffee oz.	Sugar oz.	Molasses oz.	Water qts.
Sunday	1	1½						½	⅓		1	½	2		3
Monday	1		¼												
Tuesday.....	1	1½						½							
Wednesday	1		¼						⅓						
Thursday ...	1	1½						½							
Friday	1		¼						⅓						
Saturday ...	1	1½								⅓					

Note.—In any case an equal quantity of Fresh Meat or Fresh Vegetables may, at the option of the Master, be served out in lieu of the Salted or Tinned Meats or Preserved or Compressed Vegetables named in the above Scale.

SUBSTITUTES.

NO SPIRITS ALLOWED

EQUIVALENT SUBSTITUTES AT THE MASTER'S OPTION

Agreement and account of crew list, front page 63557, foreign going ship. National Maritime Museum, London (F5135)

The food on board had to remain edible for the whole voyage as there would be scant opportunity to pick up fresh supplies. Dried vegetables dominated the menu, along with salted meat kept in harness casks of salted water. Preserved in this way, the meat could last up to four months, though it would gradually turn an unappetising green. Hard tack, or ship's biscuits, were long-lasting but tasteless crackers that were so hard they were capable of breaking teeth. Commonly, they were broken down and added to a stew for extra carbohydrates. Before the biscuits could be eaten, weevils (small beetles) would have to be shaken from them. A daily allocation of tea and water as well as flour for bread was also provided. Much was dependent upon the inventiveness of the cook to come up with something enticing. It is perhaps unsurprising that in a list of supplies that were picked up by *Cutty Sark* in 1882 from Madras (Chennai), two bottles of curry powder were included.

Fresh water was stored below deck in ten 400-gallon tanks. These were connected to a fresh-water pump on the main deck. Each member of the crew was entitled to six pints (just under 3.5 litres) of fresh water a day, but as this was also necessary for cooking the food, much of this water would go to the cook. A salt-water pump was used for washing and for flushing the toilets, or 'heads', which were located at the bow of the ship and did not have a flushing system, so were cleared by the same salt water.

POST

In another letter, Ray signed off:

'Don't forget to write to me. The address will be:
CE Ray
% Captain Woodget
SS Cutty Sark
Brisbane
Woodget is spelt get not gate.
Your loving son,
CE Ray'

Special mail ships delivered mail all over the world. The first transatlantic

contract was given to the Cunard Line. When the crew knew where they were headed to, as in Ray's case, it was relatively easy to provide an address. Ray also wrote: 'the day I wrote a letter for the Pilot … I had to scribble whatever first came into my head.' It seems from this that pilots were willing to take the crew's letters with them once they were ready to depart a ship.

CREW ORIGIN, DESERTERS AND STOWAWAYS

Cutty Sark's crew came from all over the world. It was not until the First World War and the introduction of the Defence of the Realm Act that carrying a passport became imperative for crossing borders. Before that, freedom of movement was relatively unimpeded.

The majority of the crew were from London and the South East, but a large number came from the Scandinavian nations, Germany and the Netherlands. Ten men came from the West Indies, four from Australia, 24 from North America and Canada and two from Chile. Perhaps surprisingly for the period, two Frenchmen also served as able seamen.

A total of 681 names were entered on Crew Lists, of whom 28 then failed to join the ship for whatever reason. That leaves 653 people who actually served on board *Cutty Sark*. Of these, 95 (or 14.5 per cent) deserted and 82 (or 12 per cent) could not sign their own name. Desertions became much more frequent once *Cutty Sark* began to voyage to Australia. If a man was intent on desertion, the common language and relative ease of avoiding recapture or recrimination made Australia an attractive option. What was more attractive was that wages were higher and the cost of living cheaper in Australia. Thus a pattern emerged of crew being taken on in London, on London wages, and then deserting in Australia, with the result that new crew had to be taken on there to replace them, on higher Australian wages.

Just two men were recorded as stowaways on *Cutty Sark* during her British career. Both found their way onto the ship in Shanghai. Henry King was discovered on 26 June 1870, one day after the ship had set out for London from Shanghai. According to the logbook, he claimed he was willing to work but, from 18 August, he was reported as 'idle'. John Doile was found an impressive seven days after the ship had left Shanghai in July 1873. He is listed in the Crew List as an able seaman and as being of good character, but is not mentioned again.

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CARGOES

OUTWARD-BOUND CARGOES

Cutty Sark was, of course, built for the China tea trade. But her core purpose was to make profits. In her lifetime she carried a vast array of goods from a wide variety of sources. But these were not only homeward-bound cargoes. *Cutty Sark* never left London empty-handed. Unlike her ‘bulk’ cargoes of tea and wool, her outward-bound cargoes consisted of an extensive mixture of goods, which would be described as ‘general cargo’. Among the thousands of items she carried from London were pianos, jewellery, wine, beer and brandy, candles, cocoa and cutlery.

Invariably, *Cutty Sark* would load and unload her cargoes at the East India Docks, not far downriver from her permanent home in Greenwich. These docks opened in 1806 for the East India Company. They were composed of an import and an export dock, with an entrance basin linked to the River Thames. The docks could handle up to 250 vessels at a time, and from 1860 a rail link made access to the cargoes even quicker. As the volume of trade increased, the area became more developed, with warehouses, storage sheds, shops, pubs and cafés appearing for the benefit of the sailors and shipowners. Conveniently, Jock Willis’s home was located nearby.

Unloading tea at the East India Docks
National Maritime Museum, London (H3863)

While engaged in the China tea trade and then in the Australian wool trade, *Cutty Sark* took a general cargo to Australia, where she would unload before collecting a shipment of either coal for China or wool for Britain. A full breakdown of her varied cargo would be provided in Australian newspapers. Her outward-bound cargo, carried in 1874 and quite possibly catering for those recently settled in the southern hemisphere, is shown below.

3333 bars iron, 26 cases books, 35 casks wine, 173 drums oil, 170 trunks boots, 11 cases pianos, 25 cases vestas, 155 packages hardware…56 plates, 43 cases iron, 693 rails…20 cases perfumery, 4 cases machinery, 12 tanks malt, 71 cases confectionary [sic], 10 packages apothecary's wares, 99 boxes tin, 49 hurdles wire…10 packages tobacco, 54 packets of hops…100 casks sulphur…15 casks olive oil, 1195 cases drapery, 1100 boxes candle…1462 packages.

Alcohol was often carried on board. Just over a month into her maiden voyage, with a cargo including wine, spirits and beer, Captain Moodie records a drunken incident with Able Seaman John Hanlon. The next morning, he records:

> *This morning I called John Hanlon into the Cabin to ascertain if possible how he came about the Drink that he got last night. But he denied having tasted any kind of drink since the Ship left London, he did not remember coming aft at all but said, that it might be a Fit that he … was subject to Fits at times. But there is little doubt that he had been drinking strong drink of some kind and there is as little doubt that it must have pilfered it from the cargo or stores.*

This incident of stealing alcohol does not seem to have been an isolated event. John Lester Vivien Millet served as an apprentice on *Cutty Sark* in 1884. After a career at sea, he would later write his memoirs, *Yarns of an Old Shellback*, in which he recalls that the steward, 26-year-old Edward West, was 'a young and very decent sort of chap, but I fear he was responsible for a good deal of pilferage'. He often shared a bottle of champagne with the apprentices, who were happy not to ask questions but horrified when they realised the total loss amounted to almost £300.

Gunpowder was an unpopular cargo with apprentice Clarence Ray. It was collected on a number of occasions from Gravesend, bound for Australian mines, and Ray wrote in one of his letters to his mother that because of the inherent danger in handling it, 'when you are working Powder [unloading it], you can't get any grub because the gally [*sic*] fire has to be put out'.

HOMEWARD-BOUND CARGOES

Cutty Sark was built to be a tea clipper. In her lifetime, she carried almost 10 million lbs of the exotic leaf. Yet she would make just eight voyages before being forced out of the trade by steamships and the Suez Canal. She would only carry tea once more in her career, from Calcutta (Kolkata) to Melbourne in 1881. This was not Chinese tea but Indian, and from the 1880s, Indian and Ceylon (Sri Lankan) tea would eclipse China and dominate the trade in Britain.

Cutty Sark's Tea Years

Left London	Arrived in China	No. of days	Tea loaded (lbs)	Left China	Arrived in London	No. of days	Total voyage (including time in China)
15.02.1870	31.05.1870 (Shanghai)	105	1,305,812	25.06.1870	13.10.1870	110	240
05.11.1870	02.02.1871 (Shanghai)	89	1,315,000	29.09.1871	21.12.1871	110	411
03.02.1872	28.05.1872 (Shanghai)	115	1,303,000	17.06.1872	19.10.1872	124	259
26.11.1872	12.05.1873 (Shanghai)	167	1,353,072	04.07.1873	03.11.1873	122	342
04.12.1873	19.05.1874 (Hankou)	166	1,270,651	24.06.1874	21.10.1874	119	321
10.11.1874	14.04.1875 (Hankou)	155	1,347,364	09.06.1876	26.09.1876	109	306
21.10.1876	18.03.1877 (Hankou)	148	1,334,000	02.06.1877	11.10.1877	127	355

Picking tea in China would begin in mid-April. A second harvest was gathered in July, but the two subsequent harvests were reserved for the domestic market. Drying was completed locally, and whether the tea was black or green would depend upon the drying method. Britain principally imported black tea, while green tea went to America. The best black teas were grown in the Fukien (Fujian) province, for which Foochow was the main port. In the 1860s, the bulk of the British tea fleet congregated here, at the Pagoda anchorage. Foochow was also the starting point of the Great Tea Race of 1866, and more than half of China's tea was exported from there in this period. However, 25 miles up the narrow, shallow and twisting waters of the River Min, it was not easy to reach. Monkeys are said to have got tangled in the rigging of passing ships as they tried to make use of them to jump from one side of the river to the other. Foochow was also expensive: a ship of similar size to *Cutty Sark* paid £160 in tonnage dues in 1864. Added to towage and pilot fees, this could amount to a total of almost £650. It is for this reason that *Cutty Sark* concentrated instead on the ports of Hankow and Shanghai.

The interior of a tea-house, Hong Kong
Photograph by John Thomson, 1868/1871. Courtesy of Wellcome Library, London

Tea exports from China centred upon Hankow. At the heart of a number of tea districts and with a large network of inland waterways, it offered variety both in its exports and in the method of exportation. Like Foochow, however, it was not easy to reach. It was 600 miles upriver, necessitating a long and expensive tow. Because of this, it was considered to be largely inaccessible to sailing ships and became the preferred port for steamers. In what was perhaps a shrewd gamble, however, *Cutty Sark*'s owner decided to compete with the steamships at Hankow. In 1877 she secured a cargo of 1,334,000 lbs of tea at a freight rate of £4 5s. Her old rival *Thermopylae* secured a larger cargo and reached Britain in a quicker time, but having chosen to load at Shanghai, she only managed to secure a freight of £3.

For her first four voyages, prior to focusing on Hankow, *Cutty Sark* loaded tea from Shanghai. It was situated on the River Whangpoo (Huangpu), and in the right conditions a vessel could be navigated under canvas and without a tug. Shanghai was popular as a 'top-off' port where other high-value cargoes, such as silk, would be added to the tea cargo.

Tea was generally shipped from Foochow and Hankow in late May. After the tea had come down to port, the long process of valuing it would begin. Before telegraphy had reached the East, tea merchants in London might notify commission agencies such as Jardine, Matheson or Dent & Co, to instruct them as to the quantity and quality they sought to purchase. Haggling

with the ‘tea men’ to agree upon a price could take up to a week. When deciding upon which ships to load first, there were many considerations to take into account, but those vessels that were judged to be capable of the quickest passage tended to be loaded first.

LOADING THE SHIP

Skilled Chinese stevedores were employed to load the ship, a process that could take up to four days. Ballast of up to 100 tons of iron kentledge (scrap iron) and 250 tons of clean shingle would be needed to provide stability. After the ballast was laid, the stevedores would level it out and round it down to give the ship’s tiers the exact curve of the deck and beams. This was a meticulous process in which the stevedores would be able to detect the presence of even the smallest stone. The ballast would be covered with half-inch boards. Onto this, old tea or green tea would be placed before the tiers were built up. The tea chests themselves, consisting of wood with lead piping, were different sizes. ‘Congou’, a general word for black tea, and Souchong were the largest tea chests at 23 by 17 inches. Half chests and ‘catty boxes’ were also loaded to make the most of the space. Once the layers had been loaded, the work of the stevedores gave the appearance of a splendid deck, flush from stem to stern. On top of this, split bamboo in a trellis pattern, woven at a thickness of about three inches, and then canvas would sit on top. Great care was taken to ensure that the tea would be kept as dry as possible. If raw silk was to be carried, as it often was from Shanghai, this would be packed into bales, covered in matting and placed in the driest point of the ’tween deck.

BROKERING A DEAL

Once a price was agreed upon, the next thing would be to fix the loading freight, which would have to be decided at the beginning of each season. The master of a ship would often act for the owner to negotiate the right price. If the freights were too low, the decision might be taken to conduct more voyages up and down the coast, or even to India, to fill time before the next season commenced.

When it was known that ships had been reported in the English Channel, a great deal of excitement would ensue. Brokers acting for various consignees

would rush to the docks and wait for the ships to arrive. Once they had, ships with over 10,000 chests of tea could be unloaded in as little as six hours. Samples were readily and rapidly taken and sent to those dealers whom the brokers considered would be likely to make a purchase. If the dealers' offer was accepted, a financial transaction would take place through a broker, who would take commission from both the merchant and the dealer. The dealer would then offer his purchases at auction to a wholesaler. Most tea buyers and brokers had their offices in Mincing Lane in the City of London, once known as the 'Street of Tea'. Such was the amount of tea that flooded the market that the tea auctions were increased from once a month to once a week.

TRAMPING

As we have seen, *Cutty Sark* was gradually forced out of the tea trade with the opening of the Suez Canal and the growing ascendancy of steamships. Tea chests carried by the steamers were often emblazoned with notices stating that they had come 'via the Suez Canal', thus providing assurance that they would contain the freshest tea in the trade. Clipper ships were diverted to trades in parts of the world where coaling stations were yet to be opened. For some, this meant the jute and sugar trades of the Philippines, for others, specialised commerce with India, and for some, like *Cutty Sark*, it meant taking whatever cargo she could find from port to port – in other words, tramping.

Owner Jock Willis was not confident that his ageing ship could still race with the best. Basil Lubbock suggests that he was deceived by the opinion within shipping circles that the tea clippers were too small for the big seas of the Southern Ocean. As a result, he took the decision to reduce *Cutty Sark*'s rig and send her tramping. Such a decision seems strange when it is considered that *Thermopylae*, a ship of very similar size, had entered the Australian wool trade as early as 1879. Indeed, Willis entered *The Tweed* and *Blackadder* in the same trade and so would have been aware of its possibilities. That he kept *Hallowe'en* in the tea trade perhaps indicates that he was hedging his bets and covering all trades with his fleet.

Cutty Sark's tramping years were not a huge success, sending her across the globe with little return. The deaths of two masters and the 'Hell-Ship

Voyage', which lasted for over two years, didn't help matters. Once she was in the more stable hands of Master F. Moore, Willis opted to enter his ship in the Australian wool trade.

WOOL CARGOES

Cutty Sark may have been built for the China tea trade but she forged her reputation as a record-breaking ship in the Australian wool trade.

Cutty Sark and the Australian Wool Trade

Left London	Arrived in Australia	No. of days	Wool bales loaded	Left Australia	Arrived in London	No. of days	Total voyage
04.07.1883	10.10.1883 (Newcastle)	98	4,289	28.12.1883	21.03.1884	84	261
15.06.1884	05.09.1884 (Newcastle)	82	4,300	09.12.1884	27.02.1885	80	257
01.04.1885	19.06.1885 (Sydney)	79	4,465	18.10.1885	30.12.1885	73	273
17.02.1886	05.12.1886 (Sydney)	291	4,298	26.03.1887	17.06.1887	83	485 (via Shanghai)
17.08.1887	17.11.1887 (Newcastle)	92	4,515	28.12.1887	10.03.1888	73	206
17.05.1888	05.08.1888 (Sydney)	80	4,496	27.10.1888	20.01.1889	85	248
04.05.1889	26.07.1889 (Sydney)	83	4,577	02.11.1889	17.01.1890	76	258
14.05.1890	26.07.1890 (Sydney)	80	4,617	14.12.1890	17.03.1891	93	307
23.04.1891	13.07.1891 (Sydney)	81	4,723	05.11.1891	29.01.1892	85	281
12.08.1892	07.11.1892 (Newcastle)	87	4,723	07.01.1893	15.04.1893	98	246

By 1870 Australia had a sheep population of 42 million, surpassing Britain to become the world's premier wool producer. Australian wool was also longer, softer and silkier than anything Europe was producing. Ships in the trade would leave Britain in the summer and return for the London wool sales in the first three months of every year. A number of clippers would berth at Sydney, Newcastle or Brisbane and await horse-drawn, wool-laden wagons. When they arrived, the wool would be loaded as quickly as possible. It would also be loaded as tightly as possible. A jack-screw press would force bales apart so that another could be squeezed in between. Captain Woodget was skilled at fitting as much in *Cutty Sark* as was feasibly possible. He always elected to supervise the loading himself, but in 1894 stevedores were employed to do so instead. In a keen demonstration of their skill, they managed to load over 5,000 bales, which was well over what Woodget had managed himself. Each bale was said to weigh around 400 lbs and the entire cargo would have been worth, according to Basil Lubbock, £100,000

(equivalent to almost £12 million today). As a relatively light cargo, wool offered shipowners the attractive prospect of using loading ballast that was also a profit-making cargo – namely, chrome nickel.

Cutty Sark *in Sydney*
National Maritime Museum, London (7366)

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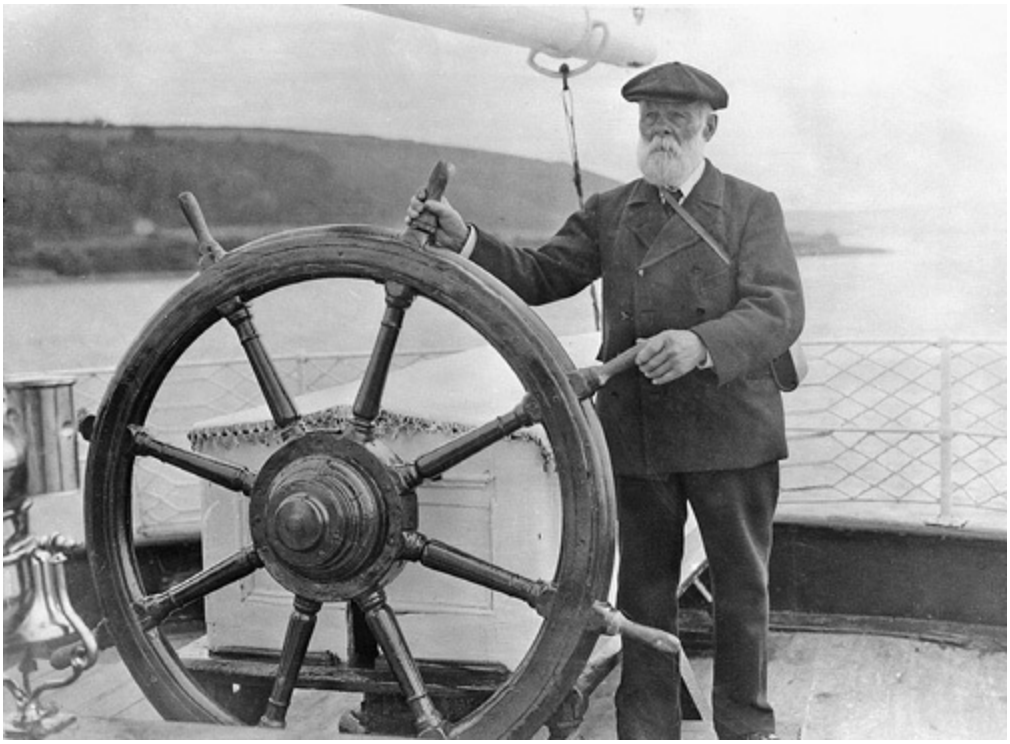
SOLD TO THE PORTUGUESE, AND THE END OF AN ERA

Sadly for *Cutty Sark*, 1895 marked the end of her time under the red ensign. Jock Willis was by now 75 and had no heirs to whom he could pass on the family business. He was a second-generation owner, and his sale of *Cutty Sark* drew to a close the John Willis & Sons Shipping Company, which had been established by Willis's father and lasted nearly until the end of the 19th century.

By 1895, due to the ever-increasing maintenance requirements of these ageing vessels, Willis had already sold off a sizeable portion of his remaining shipping fleet. *Cutty Sark* herself was 26 years old, just four years shy of her original life expectancy, and the repairs and maintenance required to keep her going were rising in cost each year. And so it was that, after a quarter of a century at sea and having carried well over 30 million lbs of goods, *Cutty Sark*'s life as a British ship had come to an end.

Willis only had four vessels left in his possession by the time *Cutty Sark* returned from her final Australian voyage in 1895. One of these vessels, *Coldinghame*, became Richard Woodget's command after *Cutty Sark*; one wool run from Brisbane was enough for him, though, and Woodget retired after that last voyage and returned home to Norfolk shortly thereafter. Although he was not to realise it, however, the voyage of 1895 was not to be Woodget's final appearance at the wheel of *Cutty Sark*. When the ship was

brought back to Britain in the 1920s by a retired sea captain named Wilfred Dowman, Woodget was invited back to his former command to review the restoration work that had been undertaken.



Captain Woodget at Cutty Sark*'s wheel in 1924*
National Maritime Museum, London (A8728)

Cutty Sark's Certificate of British Registry was cancelled on 22 July 1895, with a note that the ship was to be sold to new owners in Portugal. However, it was not Willis who sold *Cutty Sark* to the Portuguese; the sale was completed in fact by a bank clerk by the name of John Richards, to whom Willis had sold *Cutty Sark*. Quite why Willis sold her to a bank clerk is not known, nor how a then 30-year-old bank clerk could have afforded to purchase *Cutty Sark*. What is known is that just 16 days after Willis sold her to Richards, she moved into further new hands, as Richards sold her to the Lisbon-based company Joaquim Antunes Ferreira & Ca.

Cutty Sark had originally cost Willis more than £16,000 to construct, but time had taken its toll and Richards secured a meagre sum of £1,250 from her new owners, a depreciation of some 92 per cent against her initial cost. It is sadly unknown how much Richards paid Willis for her, although it is highly

unlikely that any such transaction would have left the ‘middleman’, as Richards was, out of pocket. For many years Richards’ role in the sale of *Cutty Sark* was not known, as it had been assumed that Willis sold the ship directly to the Portuguese. A more curious question than the amount he obtained for her is why Willis appeared to rush into a sale, rather than wait to secure a better price, as Richards was able to. During her time in Willis’s fleet, *Cutty Sark* performed with considerable distinction; the transfer of ownership in 1895 was ultimately an anticlimax to what had been a very admirable and financially rewarding relationship.

What is known for certain is that the maintenance costs for *Cutty Sark* had begun to rise during her later voyages. During her final voyage it became clear that the copper cladding about her hull would need to be replaced, which would have been a significant expense for Willis to bear. In addition, her rigging was considerably worn, and a full refit was likely due. This may have included the replacement of some of the spars, which had begun to suffer from the regular beating the rigging was taking on the voyages back from Australia. According to Basil Lubbock’s abstract logs, taken in great detail but from unknown sources, that last voyage to and from Sydney saw damage to the topgallant mast from the foremast; the port yardarm from the upper topsail on the foremast, twice, along with the starboard yardarm from the same upper topsail; cabin doors broken by waves; and three chainplates.

This was not the first time *Cutty Sark* had required such expenditure; as with any mode of transport, the more miles travelled, the greater the wear and tear and cost of general upkeep. However, with increased insurance costs due to the age of the ship, and with steamships beginning to take the better cargoes from Australia, the potential for Willis to make a decent profit was declining, and this was the case with practically every voyage. As well as steamships, the newly built sailing ships of the day had cargo capacity five to six times that of *Cutty Sark*. She was thus beginning to become less and less economical as the years passed by, despite her continuing excellent performance at sea.

By 1895, the effort being expended by Willis was becoming more and more difficult to justify and the mammoth cost of fully rerigging *Cutty Sark* and re-cladding her hull was likely the ultimate cause of the sale. He had already begun to negotiate her sale prior to her arrival in London, and there can be no doubt that, despite her speedy passage from Australia, the cost of making

Cutty Sark fully functioning again was simply prohibitive for Willis. It is likely that the requisite renovations would have taken more than a year's worth of profits from the business, which, considering that *Cutty Sark* was only a few years shy of her 30-year life expectancy, was not a risk worth taking for someone of Willis's advanced age.

In *Cutty Sark*'s latter years under Jock Willis, she appears to have suffered slightly from an element of mismanagement. Whether this was from Willis himself or from his agents at home and abroad is sadly not clear. What is known is that in both 1892 and 1893, *Cutty Sark* was kept in port for much longer than was normal, effectively causing her to miss two seasons of higher-priced wool runs. With maintenance seemingly no longer a top priority for Willis, and the ship no longer in a position to secure the most profitable cargoes, it is hardly a surprise that Willis elected to sell *Cutty Sark* in 1895. The financial cost of running his fleet appears to have become too great, and after a lifetime of being heavily involved in all aspects of the business, it may simply have been the right time for both Willis and *Cutty Sark* to move on to the next chapter in their lives.

So it was that after 26 years under the red ensign, and after becoming known the world over under the name *Cutty Sark*, Willis sold the ship on and she ended up under Portuguese ownership. Her new owners, obviously keen to move away from *Cutty Sark*'s past career, chose to rename the ship to better reflect their own business and undertakings. *Cutty Sark* was to become *Ferreira*, and she arrived at her new home in Lisbon on 28 October 1895 with her new name already on display. Despite the name change, her Portuguese crews continued to refer to her as *pequina camisola* – or 'little shirt' – and did the best they could to maintain her, despite limited resources. The impact *Cutty Sark* had made on the shipping community during her time under Willis was clear for all to see, and this was never more clearly demonstrated than when *Ferreira* arrived in port. From almost every port she visited under the Portuguese flag, stories remain of sailors and locals alike stopping in their tracks to marvel at the sight of *Cutty Sark* under sail again. No matter what her new name might be, to many she remained *Cutty Sark*.

Ferreira *at the Albion Dock at Surrey Commercial Docks, London*
National Maritime Museum, London (H0418)

Jock Willis passed away in 1899, aged 82. His legacy is considerable. Several of the fastest sailing ships ever seen on the high seas were of Willis's creation, while many of the sailing records from port to port around the world belonged to the Willis fleet. While the names of these vessels are now mostly forgotten, cast into the shadows by *Cutty Sark*'s lasting fame, ships such as *The Tweed* and *Blackadder* were wonderful vessels capable of matching the very best that Willis's rivals had to offer. Willis's fleet brought the Victorian world closer together by taking myriad cargoes from East to West and vice versa, and drew on crews from dozens of nations to provide a world-class

service. He can rightly be considered a pioneer of the golden age of sail, and his achievements will live on through *Cutty Sark*'s survival.

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AFTERWORD

The reputation of such a spirited and renowned vessel as *Cutty Sark* is widespread. Her working life, excluding her time as a Portuguese vessel, saw her visit 11 countries in total; her crew over her 26 years under the red ensign hailed from 35 different countries. This was a ship that sailed the globe, saw the most exotic locations known to mankind, and returned home full not just of cargo, but of stories. When tragedy struck *Cutty Sark* on 21 May 2007 due to a now-infamous fire, messages of support and financial contributions flooded in from around the world. Such is *Cutty Sark*'s lasting fame: despite not venturing to sea for more than 60 years, she continues to stir the excitement of people worldwide.

As with so many ships of the Victorian age, *Cutty Sark* can be considered a lucky ship. While most other ships would consider their luck in terms of surviving the elements – and *Cutty Sark* is no different in that regard – she can also consider her arrival in Greenwich and final homing there as one of her greatest trials. The site now occupied by *Cutty Sark* and her outstanding dry dock had been earmarked in 1948 for preserving an entirely different vessel, HMS *Implacable*, at the time one of only two ships surviving from the Battle of Trafalgar of 1805 (the other being HMS *Victory*, at Portsmouth).

With post-war austerity making the conservation of HMS *Implacable* too expensive to justify, the site in Greenwich was left vacant as *Implacable* was scuttled off the coast of the Isle of Wight in December 1949. The outrage

stirred by this act was channelled into the formation of the Cutty Sark Preservation Society, which was founded in 1952. With the patronage of HRH The Duke of Edinburgh and the support of Frank Carr, the director of the National Maritime Museum, *Cutty Sark* was brought to Greenwich for conservation on a tide of public support in 1954. Without the scuttling of *Implacable*, the future of *Cutty Sark* would have been clouded; no permanent home besides Greenwich had presented itself, and without the support of the British public – hot on the heels of the national disappointment over the *Implacable*'s demise – *Cutty Sark* may not have had the extraordinary new lease of life she enjoys today.

Cutty Sark has inspired many people during her 147-year lifespan. In 1967, the renowned sailor Sir Francis Chichester's ambition to surpass the fastest passages set by ships such as *Cutty Sark* saw him become the first person to circumnavigate the globe single-handed via the clipper route, aboard *Gipsy Moth IV*. Following Chichester's death in 1971 the yacht was displayed in a dry dock next to *Cutty Sark* in Greenwich, providing a fitting resting place before her subsequent restoration and return to the water more than 30 years later.

The famous ship designer Stephen Payne, who designed the Cunard ocean liner RMS *Queen Mary 2*, was inspired to take up his career by a visit to *Cutty Sark* as a child. The name *Cutty Sark* also appears more frequently elsewhere than one would imagine: as the name of a transport station on London's Docklands Light Railway; on a world-famous whisky brand; on several public houses around the world; as the name for several race horses over the two centuries; on an aircraft; and also as the name of a music band. Synonymous as it is with speed, adventure and fame, it is hardly surprising that the name *Cutty Sark* is popular to this day.

Nearly 150 years since her keel plank was laid, *Cutty Sark* continues to set records and inspire those who see her. Since the 1950s, when she became permanently housed in a dry dock in Greenwich, more than 16 million visitors have stepped on board *Cutty Sark*, with countless millions more posing for photographs alongside her.

Since the start of the London Marathon in 1981, she has been one of the first major landmarks encountered by runners on the route.

Today *Cutty Sark* stands as a beacon of endurance, one of the truly great survivors from a bygone era. Her contemporaries have long since vanished,

scuttled overseas, shipwrecked, or simply broken up. *Cutty Sark* survived two world wars, a hurricane while serving under the Portuguese flag, and innumerable storms as she traversed through the Roaring Forties of a severity unimaginable today. She has survived mutiny, lack of maintenance and loss of purpose; yet in Greenwich she stands resolute and ready to tell her story to visitors from around the world.

Cutty Sark *today*
National Maritime Museum, London (S1655-032)

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Maps by Brian Southern

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